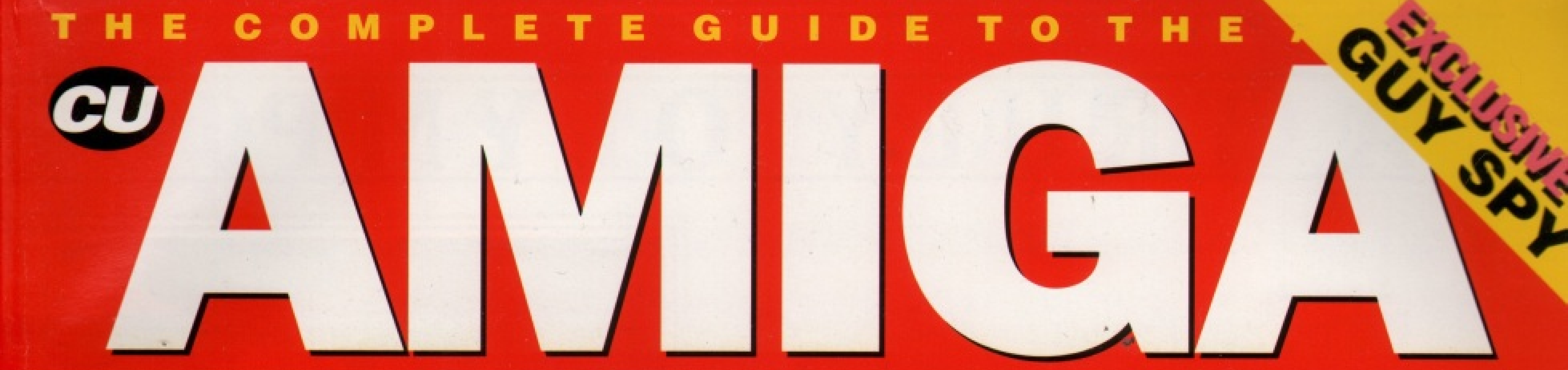


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DISK 39

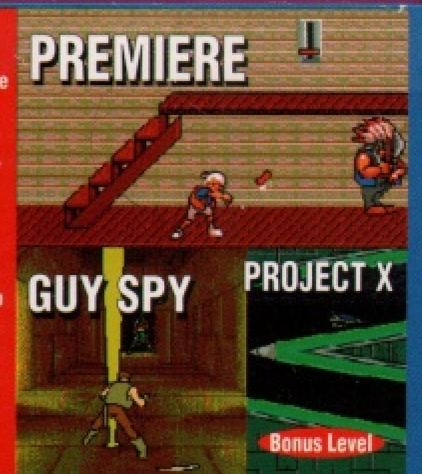
PREMIERE: Take on the outlaws in Premiere's Wild West World. (1Mb)

GUY SPY: Second playable slice of animated action taken from Readysoft's Guy Spy extravaganza.

BONUS: Guide your ship though the Bonus stage of Team 17's Project X.

STAR TREK: Amazing sci-fi clip-art.

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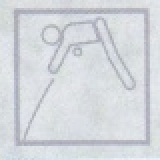
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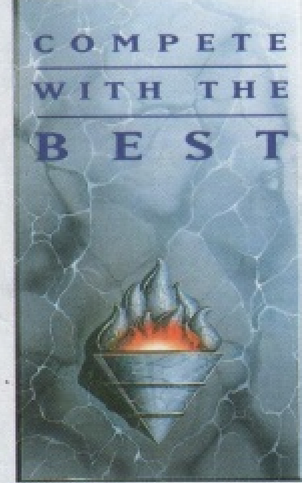




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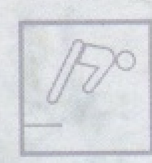
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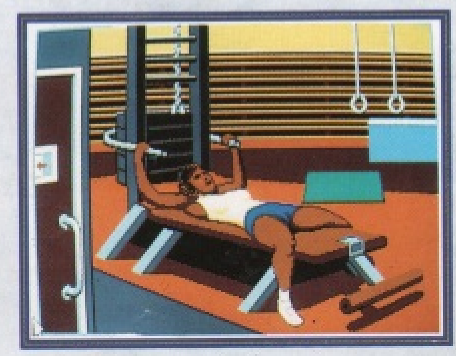










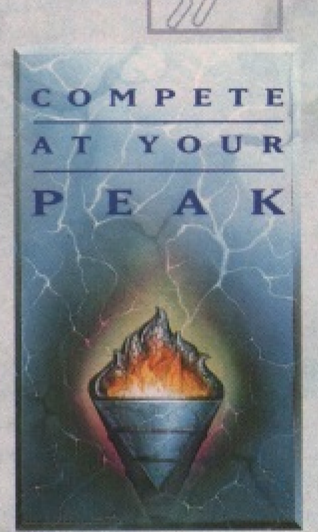




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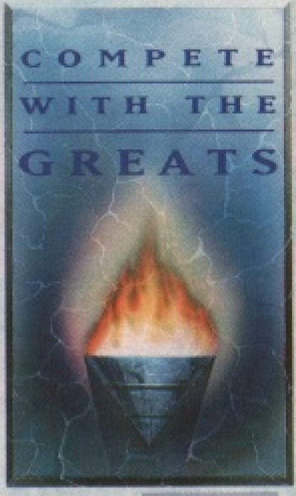




TEAM MANAGEMENT

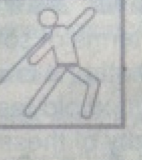
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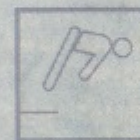


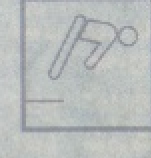














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CONTENTS

Inside

The Commodore Amiga in all its glory. But what utilities and games push it to its limits? We invite you to decide...



SPECIALS

26 AWARD WINNERS

In terms of software availability and quality, the Amiga is way ahead of the competition. Whether it is sampling software, graphics packages, platform games, word processors, or just a good old-fashioned game of *Space Invaders*, the Amiga just can't be beaten. But, with so many of these packages available, it can be a bit of a hit and miss affair ensuring that your hard-earned cash is spent on the right package. Obviously, reviews like ours are going to help you make the correct buying decision, so your money should always end up invested wisely. However, if there's a particular package which you want to praise, now's your chance. We have explored virtually every avenue of the Amiga software and have come up with a massive list of award-worthy games and utilities. However, we've only sorted the wheat from the chaff, it's up to you, our dedicated readership, to decide just which software will receive the supreme accolade of a 'FAT AGNUS AWARD' award.

Forget the Oscars and the BAFTAs, they've got nothing on these! We've always prided ourselves on ripping apart tawdry software and abysmal games, but it's only fair that we give credit where credit is due, too. In our seven-page special you will find lists containing the cream of software covering virtually every area of the Amiga. So, if you think that Electronic Arts deserve a special slap on the back for *DPaint IV*, or that Ocean should receive acclaim for *The Addams Family*, now's your chance. The fun starts on page 26 so get those pens ready...

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EDITORIAL



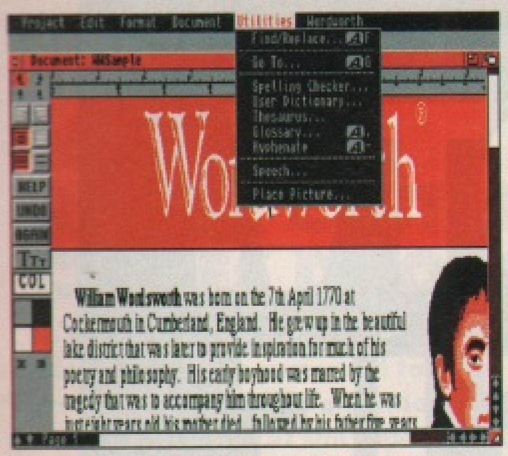
Dan Slingsby – Editor

We've got another packed issue for you this month, with something for everyone. Perhaps the best offering has to be the specially-commissioned Word Processor, *Transwrite junior*, from Gold Disk. This superb program is definitely the best WP ever to adorn a coverdisk and is absolutely crammed with features to help you get the most out of your word processing. It's incredibly simple to use, but possesses a number of options which even the £100-plus programs don't possess.

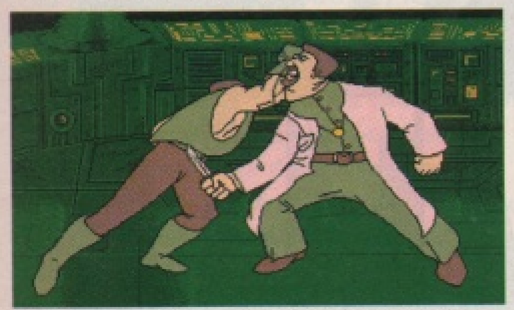
This month sees the start of a regular Art Gallery slot to showcase the undoubted artistic talent of our readers. If you've dabbled with *DPaint* or any other art package for that matter, we want to see the results. Another new feature is our mammoth History of Computing series which takes a look at the rise and rise of the home computer from the humble ZX80 through to the mighty Amiga. Our potted history tour also takes in the major developments of the last decade as well as detailing some of the less-than-successful ventures.

We've also got the second installments of Graphics DIY and our *Octamed Pro* tutorials to help you get the most out of your Amiga. But enough of this self-congratulatory back-slapping, I hear you say, so I'll end on a more serious note – the apparent closure of the National Repair Centre. This has undoubtedly caused a lot of concern to those people who had sent off their Amigas for repair. At the time of writing, it's not really clear exactly what the outcome will be, but Commodore are pulling out all the stops to ensure that users don't get ripped off. They've set up special advice lines to keep you abreast of the latest developments, so turn to page 7 for the number if you need to give them a call to set your mind at rest. They're currently setting up a deal with another major repair outfit and we'll hopefully have more news for you next issue. Until then, read and enjoy...

REGULARS



Not sure of which Word Processor to buy? It's lucky we're here to help, really. Page 128.



He's big, he's hard, and he's well-animated. Oh, and he's also Guy Spy. Page 54.

Expensive, but incredible, sampling power is yours with the amazing *Studio 16*. Page 106.



Better than Sonic? Gremlin's Zool somersaults on to the Amiga at long last. Page 66.



The winners of our Philips Grand Masters competition are revealed on page 44...

COVERDISKS

Once again, CU AMIGA leads the way in quality coverdisks. Starting with Disk 38, you cannot have failed to notice that we have secured a top-notch word processor for the disk, specially comissioned from Gold Disk. Also finding its way onto the disk are a versatile spell-checker, do-it yourself demo code and a whole drawer full of samples for use with the *OctaMED* package (featured on last month's disk). If you are security conscious you'll be pleased to know we have also installed a recent version of one of the most effective virus killers around on the disk, to protect your boot-blocks from harm. Also, don't forget that the tutorial files from our ARexx programming series are on the disk, together with some support libraries to help with your ARexx coding.

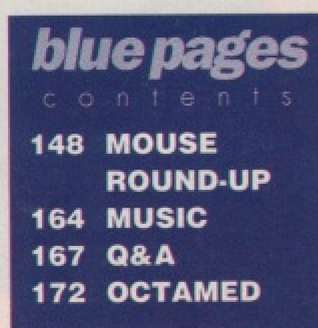
Meanwhile, on the games front, Disk 39 is brimming with all the best in game demos. We lead off with a playable demo of Core Design's *Premiere*, which attempts to combine *Heimdall*-style graphics with *Prince Of Persia*'s playability – does it? See for yourself. Next up, we have a second coverdisk visit by Readysoft's square-jawed hero, *Guy Spy*. This time, we meet our hero as he squares off with an evil Egyptian God for a bout of swordplay. And if that's not enough for you, there's *Project X*'s stunning sub-game and Clip Art, too.



GAMES **44** Kicking off with First Impressions, this month's Screen Scene features previews of *Shadow Worlds*, *Nobby The Aardark*, and *Troddlers*. After that, our many reviews features such gems as Readysoft's long-awaited *Guy Spy*, which tries to combine the graphics of *Space Ace* and *Dragon's Lair* with 'proper' gameplay – does it do so? Turn to page 54 to find out. In addition, also reviewed this month are Microprose's *Civilization*, *Megatraveller II*, and *TV Sports Baseball*. Finally, both Core's *Premiere* and Gremlin's *Zool* make their debuts this month.

TECHNICAL **106 STUDIO 16** 12-bit sampling hits the Amiga as this revolutionary sampling package gets put to the test. Could this mean the end to annoying hiss when sampling? Read on... **112 MAPLE V** Mathematics made easy (well, easier) as we take a look at this stunning piece of American software which looks set to expand the Amiga's usefulness ever further. **126 VIDEO ROUND-UP** The Amiga demo scene has thrown up some bright new talent over the last couple of years. But with the machine's relatively limited memory, such coders are now looking to explore other avenues with their fancy graphics and sound routines. We take a look at the new wave of Amiga-related graphics videos to see what's new. **128 WORD PROCESSOR ROUND-UP** Buying a word processor is a task which awaits virtually every Amiga user at some point. But with so many packages available, all of which offer innumerable features, it can be very difficult knowing which one to plump for. As usual, though, CU is to the rescue as Mat Broomfield sifts his way through the many packages available to bring you the ultimate in Word Processor buyer's guides.

PUBLIC DOMAIN **134 PD SCENE** Another bunch of excellent and dross PD demos pass before Steve Keen. Somewhere between the inane slideshows and samey megademos he still manages to pull out a few corkers, though.. **138 PD UTILITIES** Another month, another PD Utilities column. Mat Broomfield casts his eye across the PD circuit to locate all the best, budget-priced utilities you'll ever need. Turn to page 138 to see what he's unearthed this month...



NATIONAL REPAIR CENTRE CLOSES DOORS

In a shock development, the National Repair Centre is rumoured to have gone into voluntary liquidation and closed its doors. At the time of writing, it's still not clear what will happen to the machines already in for repair, although reports have begun to surface of a Commodore lorry making a midnight dash to secure the machines and return them to their owners. If you're one of the dispossessed, Commodore have set up a hotline to answer your queries. Contact them on either 081 847 2223 or 081 231 3700.

Speaking to Commodore about the situation, a spokesman was at pains to stress that owners whose machines develops a fault should return them to their original dealer. A600 owners, meanwhile, are unaffected as the new machines come with an on-site maintenance deal which is being operated by Wang.

GAMESMASTER LIVE

CU AMIGA and Gamesmaster have teamed up to stage what will be the games event of the year.

Gamesmaster Live will take place at the NEC in Birmingham from December 4-5th, and will encompass both computer and console entertainment. Unlike previous shows, the accent will be on having an action-packed day out with most companies showcasing their upcoming games. Gamesmaster host, Dominik Diamond, will be on hand, presenting a series of games challenges and the whole shebang will be recorded live. All the big software houses will be there, and there'll also be fun rides, extensive arcades, and electronic shopping malls. We'll give you more details as we get them.



TRADE-IN DEAL FOR CDTV

With relatively poor sales so far, Commodore are launching a summer offensive to promote their beleaguered CDTV. From mid-July, Amiga 500 owners will be able to trade in their machine for a £200 discount off the price of the newly-launched CDTV Multimedia Pack. The Multimedia Pack includes a CDTV, plus keyboard, mouse, and disk drive and retails normally at £599, although with the trade-in offer it can be yours for £399.



Commodore are quietly confident about the success of the deal, particularly as the same technique was used to boost the ailing Amiga in its early stages of development. A deal was then struck whereby C64 owners could upgrade to the Amiga by trading in their 8-bit machines for a hefty discount. Commodore's Kelly Sumner commented: 'People can hand in a four or five year-old Amiga 1.2 and get a brand new Amiga with CDROM and a 12-month warranty. It's a cracking deal'.

AMIGA'S FUTURE FALLS TO SUMNER

In a surprise move, Steve Franklin has been replaced as head of Commodore UK. He will be replaced by Kelly Sumner, the former head of sales. The change indicates no shift in general policy, but Sumner is unlikely to try and emulate his predecessor. Franklin, who has spent five years in what was once the hottest seat in consumer electronics, is the man who made the Amiga in this country, building up the sales past the magic one million mark. He is not stepping down but rather moving on to take charge of what is probably now the hottest seat in consumer electronics, European head of the CDTV project. This is a job he is sure to enjoy – with the probability of major developments on the CDTV front this year, it is obvious that Franklin is not opting for the quiet life.

FIRST A600 PERIPHERALS ARRIVE

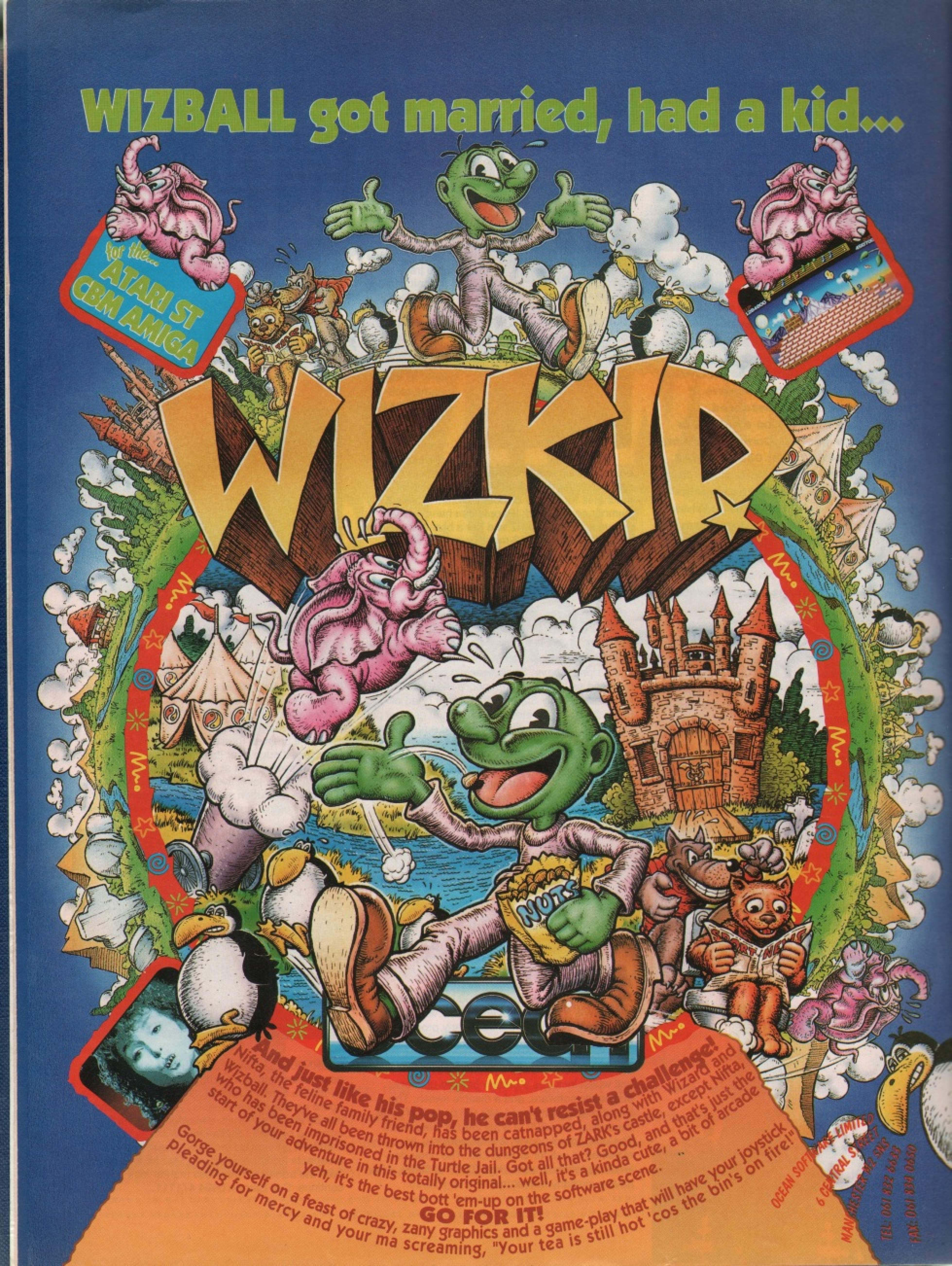
The first peripherals for the A600 have arrived – but there is a little controversy about who actually got there first. Both of the third party products are memory expansion cards for the redesigned trapdoor slot of Commodore's newest machine. One of the contenders is Silica Systems' (081 309 1111) unit which includes a battery backed-up clock, diagnostic software, and a disable switch. The board comes configured with 0.5 or 1Mb of RAM, expanding the A600 to a full 2Mb of Chip RAM. The unit, complete with 2-year warranty, is expected to sell for around £60. The other contender is lesser-known Virgo (0276 676308), who have a similarly-befeatured unit for £59.95.

LASER WARS HOT UP

Star Micronics are trying to muscle their way to the 'Best Value' position in the high-end of the printer market. The new Laser printer 4 III is probably the fastest laser around and costs only £1049 (excl. VAT). Based on the popular Canon LBP-LX engine, it uses an Intel 80960SA RISC processor for a speed edge over its competitors – the parallel port can accept data at a rate of 30k per second. Featuring PCL level five and HP GL2 it also incorporates a resolution enhancement algorithm for an improved output quality, claimed to be equivalent



to 600x300 dpi. The 4III comes with 1Mb memory as standard and can accept up to 5Mb, available as plug in cards. Fourteen bitmap fonts are on board as are eight scaleable typefaces and more can be added either via a Hewlett-Packard font cartridge or one of Star's own. With the impact of bubblejet printers on the home market the prospects for better performance and lower prices from the traditional business market look set to continue. Call Star on 0494 471111.


WIZBALL got married, had a kid...
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And just like his pop, he can't resist a challenge!
Nifta, the feline family friend, has been catnapped, along with Wizard and Wizball. They've all been thrown into the dungeons of ZARK's castle, except Nifta, who has been imprisoned in the Turtle Jail. Got all that? Good, and that's just the start of your adventure in this totally original... well, it's a kinda cute, a bit of arcade yeh, it's the best bott 'em-up on the software scene.
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MORE CDTV TITLES ANNOUNCED

In an attempt to kick start the CDTV market, Commodore have unveiled a number of upcoming titles which will shortly be available for the almost-forgotten machine.

SHERLOCK HOLMES



Nearing completion is Mindscape's *Sherlock Holmes, Consulting Detective*. Set in the Victorian era of pea-souper fogs and top hats, the game features a live-action mix of full-motion video footage with a whole host of audio-visual clues for the budding detective to solve. The World's greatest detective is ably assisted by his stalwart companion, Watson, as you seek to solve the most dastardly of crimes. Look out for a full review shortly.

THE CONNOISSEUR FINE ARTS COLLECTION



Released at the end of July, the world's first interactive art gallery is set to grace your living room, featuring 500 of the world's greatest art treasures. Developers, Lascelles Productions, have also added a selection of 10 classical music tracks for added enjoyment. In all, the works of some 100 artists are on offer, the collection ranging from classical Greek and Roman art to High Ranaissance, 18th Century and The Impressionists. The collection can be viewed by each period, by the individual artist, or as part of a continuous four-hour multimedia presentation.

FRACTAL UNIVERSE



Fractals might be a little old hat these days, but that hasn't stopped Almathera Systems from jumping on the stalled bandwagon with *Fractal Universe*. On offer are three fractal creators as well as an art gallery option which displays a continuous array of fractal images, each one numbered and described. There's also a section detailing the history of fractals and one which attempts to explain the complex mathematics involved in such creations. For further information, ring Almathera on 081 683 6418. Again, we'll have a full review in our forthcoming CDTV column.

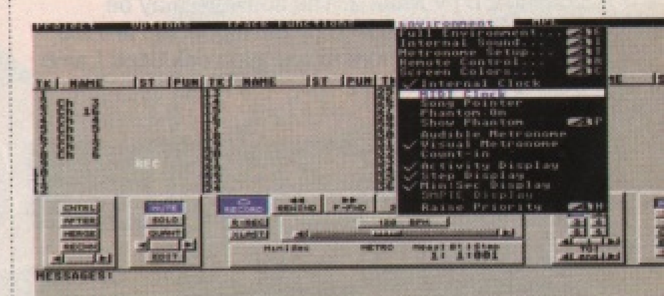
CDTV SPORTS FOOTBALL



Unsurprisingly, this title is an updated version of Cinemaware's aging *TV Sports Football* game, which, until the advent of EA's *John Madden's*, was widely acclaimed as the best of its type. The basic gameplay remains the same, the big difference being the enhanced presentation. The game makes use of the CDTV's quarter-screen video capabilities and 'Chromakey' system to produce live-action sequences which appear at relevant points before, during and after play.

DR. T's KCS 3.5

Probably the best music package in the world, KCS has been upgraded again to version 3.5 for the Amiga. Dr.Ts are the World's leading music software company, with their products used far and wide by top artists like Madonna. The latest version now easily surpasses the ST equivalent (formerly the musicians' favourite), with extra features and the added ability of multi-tasking probably makes it one of the foremost tools for musicians on any system. Dr.T's software is distributed here by Zone distribution, the UK's largest music software distributor. Call them on 081 766 6564 or watch out for the review next month.



ADVICE LINE

If you've ever been in need of technical advice and all you've got is an incomprehensible 400-page manual to turn to, you'll be pleased to know that help will soon be a mere phone call away. A new company, TIAN (The International Advice Network), are currently seeking experienced Amiga users to join their advice helpline. Once they've recruited the necessary staff (on a freelance basis), the company intends to charge a small subscription fee to users in return for unlimited advice on anything to do with the Amiga. If you'd like to know more, or can offer assistance, then contact Norman Jamieson on 0482 793154.

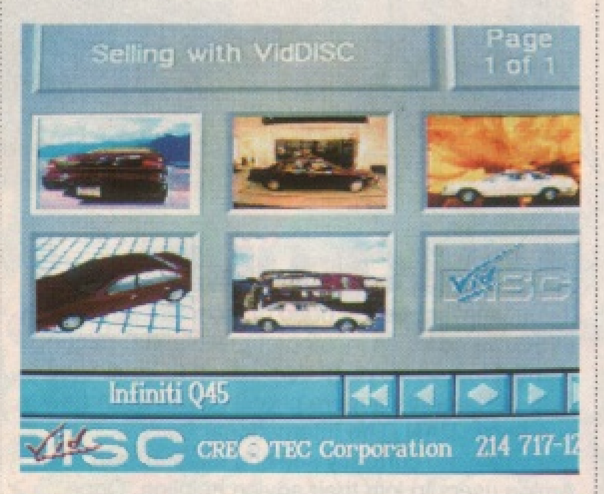
AMIGA DROPZONE

With the success of *Head Over Heels*, several favourite 8-bit games are set to appear on the Amiga. Andrew Braybrook is tinkering with a version of *Uridium*, and news reaches us that *Whirlwind Snooker* supremo, Archer Maclean, is putting together a storyboard for *Super Dropzone*. If you never owned a C64 or Atari 800 machine, you probably won't understand why we're so excited about this. *Dropzone* is basically an extension on the popular *Defender/Stargate* theme, with the player guiding a heavily-armed spaceman across a series of horizontally-scrolling planets. As in *Defender*, the basic aim is to retrieve a series of pods and return them to the base on the planet's surface. However, several races of aliens are set upon eating the pods and are attempting to whisk them away.

As of yet, with the game in its very early stages, no publisher has been signed but something tells us that this is going to be one to watch. As soon as there's absolutely anything to see on it, we'll let you know.

CREOTEC BACK CDTV

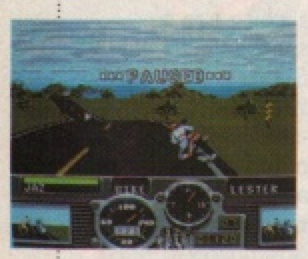
Texas-based Creotec are throwing their weight behind the Amiga in a big way. For a start, the company is offering a complete one-stop solution for producing multimedia applications for the CDTV. Not only do they provide a script writing and content analysis service, but also carry this through to supplying graphics, music, foreign language translation, CD replication and even update support. Their authoring system, VidDISC, provides many multimedia applications with a standard, easy to use interactive interface and allows the production of data diversant information retrieval systems to suit any multimedia requirement. The software supports both the CD XL motion video format and the AVM (DCTV) image format which is expected to appear on the forthcoming CDTV Mark 2. The software may be available to be licensed by developers in around five months. For more information call Scott Lamb on 0101 214 7171272.



GAME MUTTERINGS

• *Road Rash*, EA's brilliant punch'n'ride motorbike racing game is currently being converted to the Amiga. Originally released on the Sega Megadrive, the game was incredibly well received as you sought to guide your player around a variety of twisting bends and open straights, whilst also attempting to force your opponent off the road with a variety of kicks and punches. The game should be released in time for Christmas. • After the first *Gobliiins* game, those three mischievous munchkins are back in another rip-tickling yarn which sets our pals another seemingly-impossible task to complete. Along the way there will be yet more brain-straining puzzles to solve as well as a more developed control system which will allow many more movements and commands. • The sequel to Delphine's spectacular *Another World* is now in production. As yet untitled, the game is set to expand on the addictive gameplay of the former title as well as being a much more substantial adventure. • Psygnosis are reported to be rather upset that Carl Lewis failed to qualify for either the 100m or 200m at this year's Olympics. In the American trials, Lewis could only manage 4th place in the 100m and came 6th in the 200m. Fortunately, the track star will be going to Barcelona, but only to take part in the long jump. It certainly takes some of the gloss off their license to use his name to promote their Olympic title. • Imagitec are putting the finishing touches to *American Gladiators*, a game inspired by the early morning 'kick 'em where it hurts' contest where members of the public have to negotiate a number of specially-constructed assault courses while taking on steroid giants and getting the crap beaten out of them.





CLUB CALL

Each month, we'll be taking a look at one of the many Amiga clubs that exist to help you get the most out of your machine. If you run such a club, why not take advantage of this free service and let fellow readers know what your group can offer them? There's a free subscription to each group that replies.

First out of the hat is the Amiga User's Group (Fylde). This club covers anybody living in the Lancaster and Preston areas as well as anyone 'on the left-hand side of the A6'. The group supports all types of Amiga and has a special advice line to help with any problems members might encounter.

Membership costs a reasonable £15 a year, or £8.50 for six months. For this, you not only get unlimited access to the advice helpline, but a monthly newsdisk as well. This is positively stuffed to bursting with all manner of reviews, goods for sale, programs, tips, and up-to-the-minute news and opinion. The group also operates its own PD library and Bulletin Board, so there really is something for everyone.

For further information, contact AUGF at: 25 Glen Eldon Road, Lytham St Annes, Lancashire, FY8 2AX. Please enclose an SAE. Alternatively, give them a ring on 0253 724607 and tell 'em CU Amiga sent you.

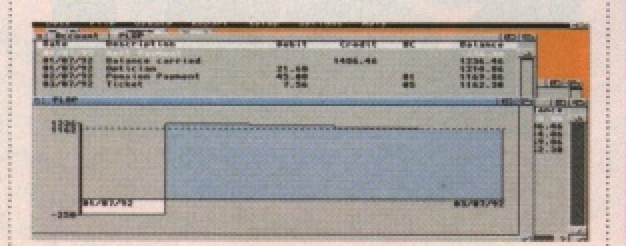
WAXWORKS

After the success of Accolade's *Elvira* games, the development team behind the gory adventures, Horrorsoft, have started work on adapting the hit movie, Waxwork, for the Amiga. Following a similar blood-thirsty theme to their first two games, the new adventure features more than its fair share of corpses, murderers and axe-wielding psycho-paths. In pursuit of your long-lost brother, your investigations eventually lead to an old Victorian waxwork museum. The gruesome exhibits have a nasty habit of coming to life and dragging you into their horror-filled worlds. Judging by the gory screen we've seen *Waxworks* should have an 'Over 18' category attached.



ADVANCE IN PERSONAL FINANCE

Microdeal's much-acclaimed *Personal Finance Manager* has now been updated. Improvements over the original version include multiple account handling with auto-transfer, trend plots and increased budget handling. *Personal Finance Manager* is probably the only currently-available Amiga accounts package designed specifically for the home user , allowing the easy and accurate control of an everyday budget. With features such as automatic account balancing this may not be one for Wall Street tycoons but it should find its way into the library of everyone who can't quite work out why they are broke at the end of every month. *Personal Finance Manager Plus* costs £39.95 and is available from Microdeal, Box 68, St.Austell, Cornwall PL25 4YB.



OCEAN ENTER THE JURASSIC PARK

Following on from their *Cool World* licence, Ocean have also added Steven Spielburg's forthcoming Jurassic Park film to their Christmas line-up. Based on the book of the same name by Michael Crichton, Jurassic Park is basically Westworld with Dinosaurs, and tells of a band of holidaymakers who fall foul of the collosal beasts as they break their programming and run riot.

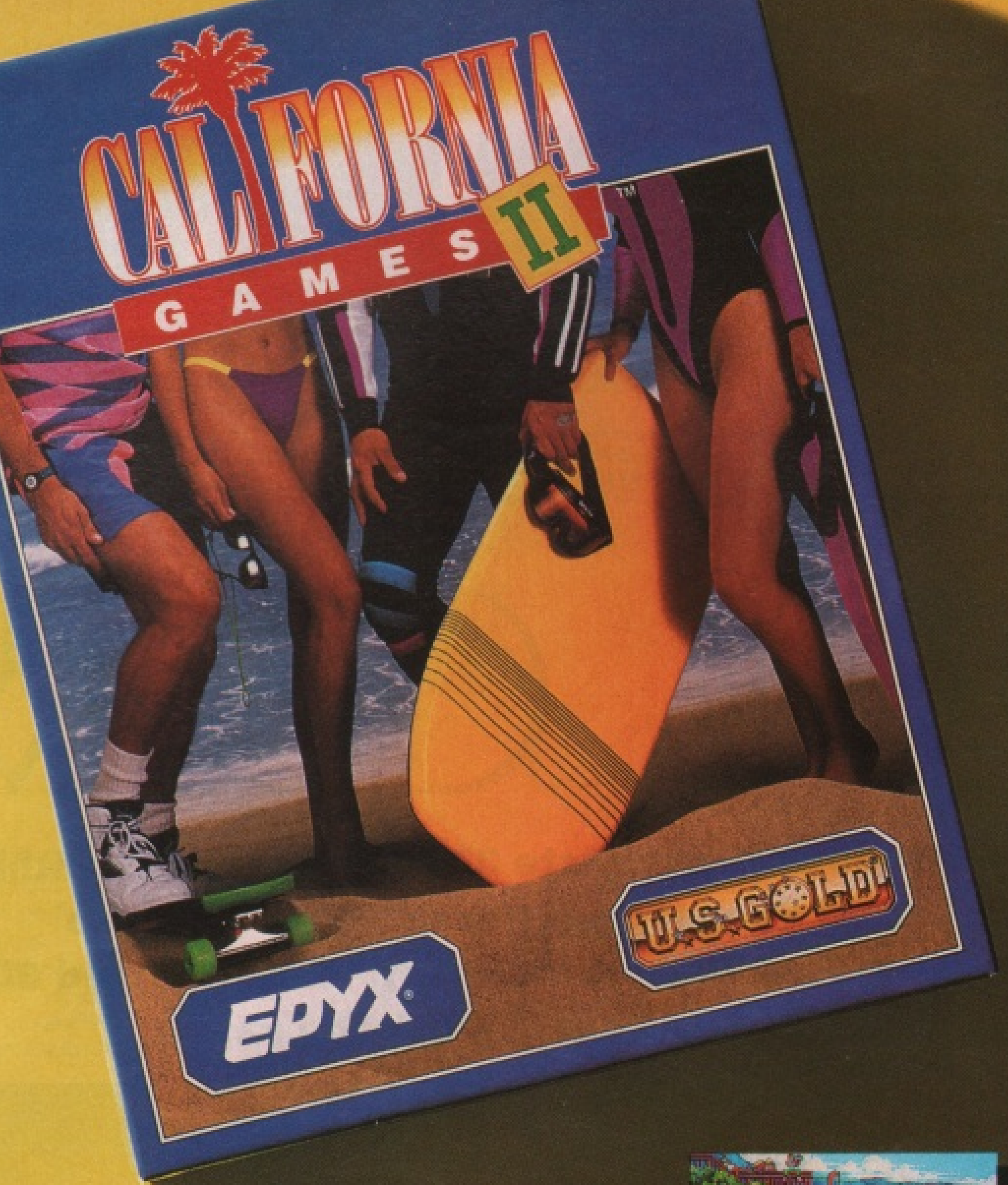
The book was a massive success, and Hollywood rumours are already suggesting that Spielburg's film will be another blockbuster. The game is at the storyboarding stage at the moment, with a number of scenes being built up from the movie's script, but nothing has been commited to code. Expect more news soon.

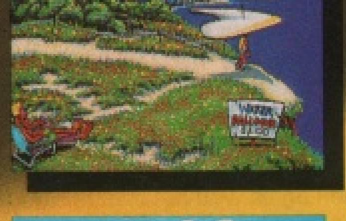


DOWNWARD COMPATIBILITY?

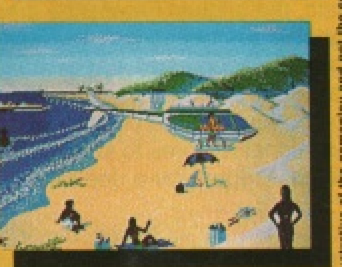
Utilities Unlimited are planning to ship another Mac emulator into the UK via distributors BlitSoft. Following broadly along the lines of the old *A-Max* cartridge from Readysoft, the Emplant requires the user to purchase Apple ROMs to enable the unit to work. The hardware is in card form for the A1500/2000/3000 but can be fitted to the expansion bus of the A500 (no A600 version is planned) . The software will allow control of the serial, SCSI and Aplletalk ports on the card and roughly simulates an Apple IIx (although an accelerator card and at least 2Mb of memory are recommended. 'Whilst working on the Sybil project for A-Max, Utilities Unlimited decided they could come up with a better emulator by themselves' said a spokesman for Blitsoft. 'It's a very nice platform and the hardware will also be used for a PC emulator in the near future.' The unit will come with different hardware configurations and will cost from around £165 to £205 without the ROMs. Blitsoft are on 0908 666265.

GRAB YOUR SHADES DUDES THE LAND OF SAND N SURF IS BACK











Screen shots from Amiga version

Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which may vary considerably between different formats in quality and appearance and are subject to the computer's specifications.

Yo dudes! Welcome back to California- the land of Fun and Games! - for California Games II, the ultimate sequel to the game that sold over 1.5 million copies worldwide.

• Five brand new events: Bodyboarding, Snowboarding, Jet Surfing, Hang Gliding and Skateboarding. • High score Hall of Fame or Shame, depending on how you do. • Practice and Challenge your best scores or beat up to seven friends. • Graphics so real you'll feel you're there!

Available on: Atari ST, Amiga and PC Dual.



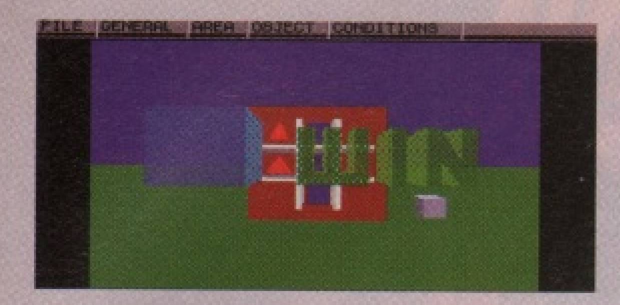


HINTS TIPS N HELP CALL THE



LEGEND OF DARKMOON (EYE OF THE BEHOLDER II) · SHADOW SORCERER TEL: 0839 654 139 HILLSFAR · DRAGONS OF FLAME · HEROES OF THE LANCE TEL: 0891 442 025 CURSE OF THE AZURE BONDS · POOL OF RADIANCE · CHAMPIONS OF KRYNN TEL: 0891 442 026 BUCK ROGERS · SECRET OF THE SILVER BLADES · EYE OF THE BEHOLDER TEL: 0891 442 030 OPERATION STEALTH · ANOTHER WORLD · CRUISE FOR A CORPSE TEL: 0839 654 284 LUCASFILM HELPLINE. · LE CHUCKS REVENGE (MONKEY ISLAND 2) · INDIANA JONES · ZAK MCKRACKEN · MANIAC MANSION · LOOM · SECRET OF MONKEY ISLAND · BATTLE OF BRITAIN TEL: 0839 654123 INFORMATION LINE: 0839-654124

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Complex images can be added or taken away from screens with minimum fuss. In addition, more complex shapes can now be formed by linking different blocks together.





3D CONSTRU

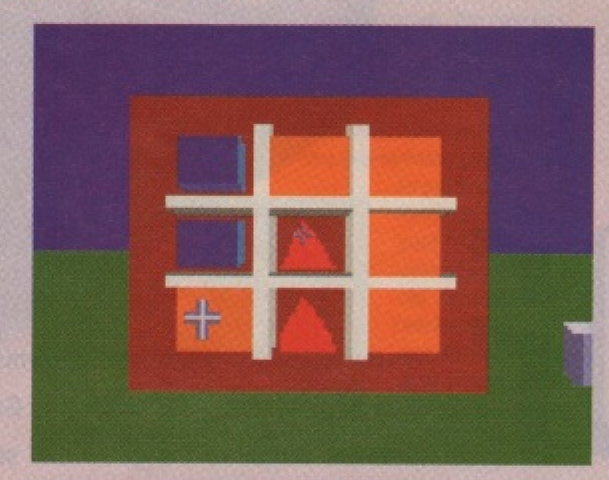
How soon until complete 3D manipulation is within our grasp? Sooner than you think according to Domark. Tony Dillon tinkers with the revamped *3D Construction Kit* to see if that's the case...

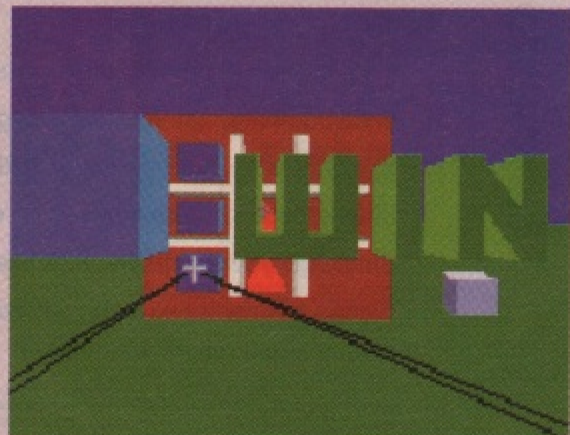
VIRTUALLY REALITY Well, you've got to admit, Domark have kept this under their hats. For the last three months, the team of Kevin Parker, Paul Gregory and Ian Andrew have been pulling this revamped package together. And, whilst rumours of its existance and features have been rife, only now are they ready to unveil its contents.

The original *Kit* was hailed for its ease of use and comprehensive capabilities. However, to my mind, its slight over-simplicity in its range of usable objects put it in second place to *AMOS 3D* – but, then again, you have to be able to program to reap the benefits of Europress's language-based package. *3DCK* allowed the user to build complete worlds without any programming knowledge. Yes, you did need a rudimentary knowledge if you were going to do anything other than walk about, but that did little to spoil the package for the novice – basically, the complete Freescape worlds of games such as *Driller* and *Castle Master* were at your disposal for use in your own games. That said, the original Freescape creator had many limitations, something Incentive have tried to fix with this new souped up, turbo-charged sequel. After a relatively short development time, it's already close to completion, and contains more than enough additional features to keep the user busy and interested. Prepare for a ride through Virtual Reality.

RUBBER LEGO In constructing your 3D World, the most important elements are undoubtedly the building blocks at your disposal. The original package was restricting in that you could only build 90 degree objects or pyramids. *Kit II* keeps all the original blocks and adds a new, powerful shape – the flexi-cube. In the original, you could only pull and stretch complete faces of objects, whereas the flexi-cube works by pulling vertices (the corners of edges) rather than the flat faces themselves. This means that a cube can be turned into completely unrecognisable shapes, something only possible before by grouping lots of shapes together. This obviously means an increase in speed, as less blocks need to be updated as the screen is moved.

Another new shape is the sphere – a feature rarely seen in 3D programs. When combined these two shapes should mean that games produced with this new kit will look far superior to anything seen in any other Freescape game.





The Worlds you can create are updated at a greater speed than anything built with the original kit, resulting in far smoother games.

NOW YOU SEE ME Object manipulation has taken a flying leap, too. An impressive new tool used when creating objects is Fade. This allows you to set objects as 'flashing', whereby they fade to nothing and reappear again, or give them a transparency level which proves useful for creating windows in, say, buildings. Objects can also be set to wireframe mode, leaving just the edges drawn. Combined with the option to set objects to 'walk thru' (whereby you can pass through items), this leaves lots of room for imagination. Imagine you are in a game where you have to collect crystals, and one is hidden in a fishtank. To get the crystal, you have to get rid of the water by shooting it, which causes it to evaporate. The fishtank is set to wireframe and walkthrough, the water is a solid blue cube inside the tank and the crystal is set inside the cube. Shooting the water makes the cube fade and then disappear, leaving the tank with the crystal inside. Something similar to this could have been done before, but only with some sophisticated use of the FCL (Freescape Command Language).

CONVERSANT Which brings me nicely to the new, improved language. There are now more than double the commands of the original, all of which deal with the manipulation of objects and respond to actions on behalf of the player. Along with all the original animation and movement commands, you can now fade objects, access video playback, and change the palette.

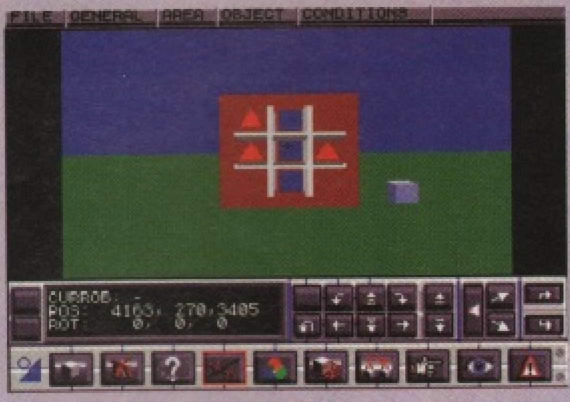
The latter option may not sound particularly important, but it certainly has its uses. Consider the simple act of turning a light bulb on and off. Before, you would have had to create two identical rooms, one with everything in very dark colours to represent the light being off, and one with very bright colours, to represent the light being switched on. Now you can have one room and a command

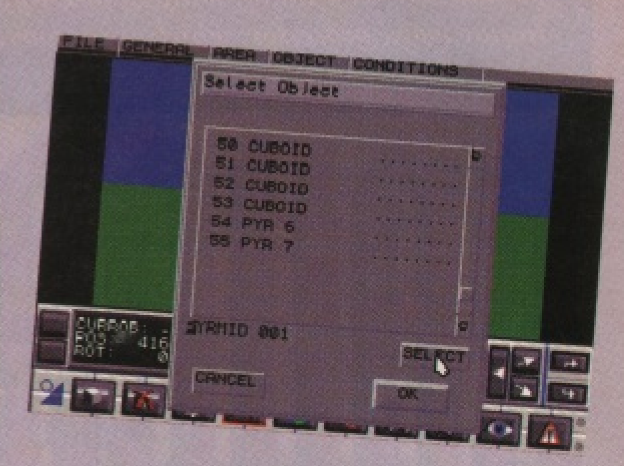
SQUARE DEAL

The exciting world of fully-explorable 3D was created by Incentive Software back in 1988. A short demo of a filled 3D landscape was shown running on the humble Spectrum to goggle-eyed punters at the (then) PCW Show. Incentive's Ian Andrew duly christened the routine Freescape and also announced a series of games which would utilise this incredible world. The most impressive thing about Freescape – although obviously the Spectrum version's jerky update isn't so impressive now – was that rather than just walking in and out of buildings, your onscreen persona could also look in any direction.

True to his word, Andrew's first game was called *Driller*, and involved exploring a large 3D world in an attempt to prevent a planet from exploding due to the pressures of the gas under its crust. This was then followed by *Dark Side* which was basically more of the same, and then *Total Eclipse* which added a jolly Egyptian flavour to the proceedings. Domark then released *Castle Master* but, by now, people were getting a little tired of the Freescape thing – hence the *Kit*'s appearance...





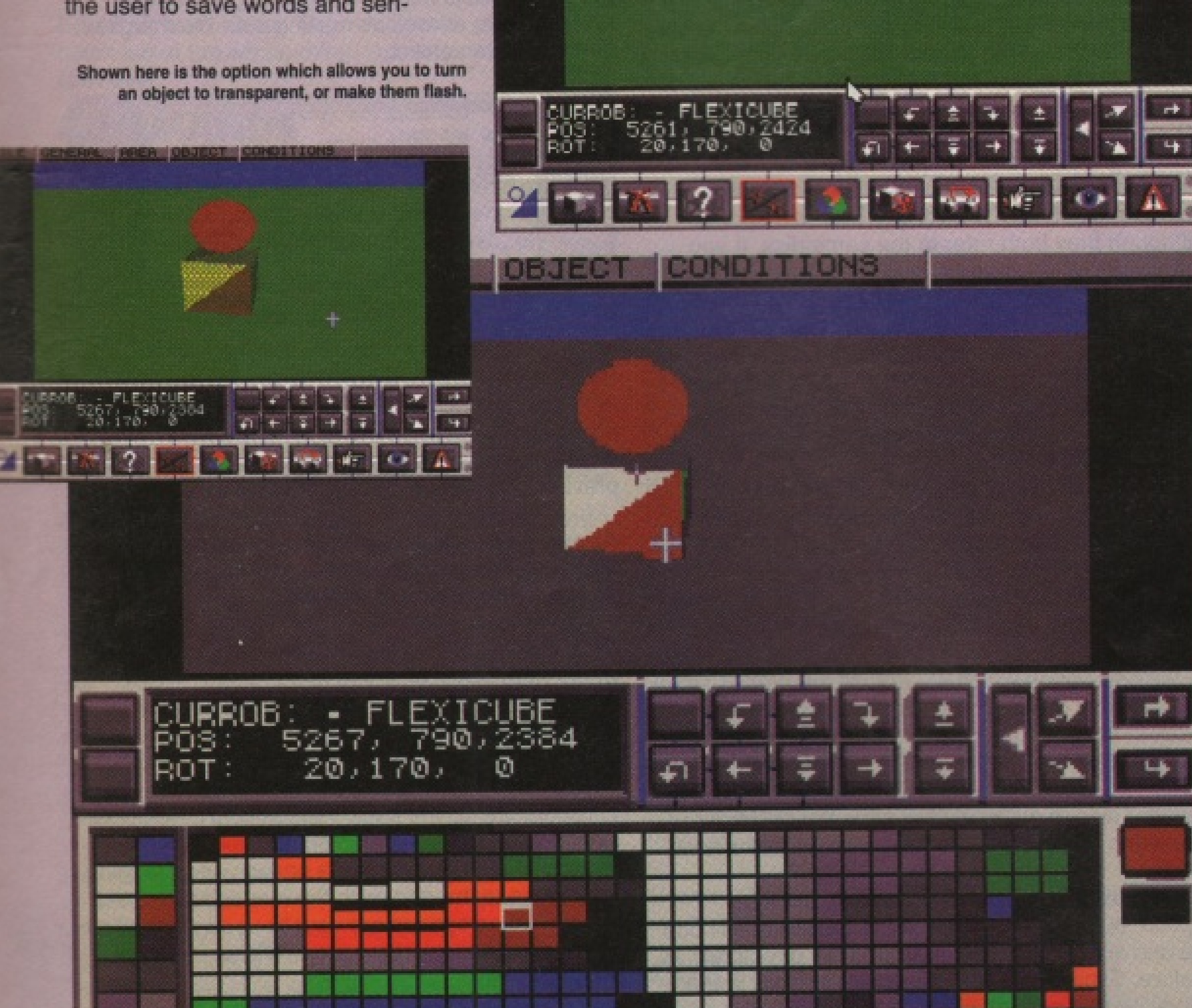


CTION KIT II

that changes the colours of the respective object.

Other improvements to the FCL include procedures and text variables, two ideas borrowed from BASIC. Procedures are small subroutines – pieces of programming which are often repeated – and can now be called from a main program. This saves having to repeatedly enter the same piece of code – for example, if you had a keypad with six coloured buttons, which made a different sound when pressed, instead of writing six routines, one for each button, you could have one routine that checks which button has been pressed. It will then store the number in a variable, jump to the subroutine, and play a note based on the number of the button pressed. Text variables, otherwise known as strings, also allow the user to save words and sentences, such as the player's name, and then use that throughout the game – something not possible before and perfect for personalising your home-grown games.

These two pages should be more than enough to whet your appetite. *3D Construction Kit II* should be hitting the shelves around September time, so look out for a full review shortly before then.



Shown here is the option which allows you to turn an object to transparent, or make them flash.

WHAT'S NEW IN 2

NAMES OF GROUPS AND OBJECTS

A problem a lot of people found themselves struggling with in the first package, was that all objects and groups were numbered rather than named. For example, Group 1 might consist of cube 1, cube 3 and pyramid 7. A little hard to digest when you have a lot of objects in a room at once. This new package lets you name all your groups and objects, but, thankfully, won't list blocks in the object list if they're part of a group. This means you can have a group called Car and a group called House, rather than a whole string of numbers. Life looks easier already.

VIDEO PLAYBACK

The Video Playback facility works in the same way as macros on a word processor or DTP package. This clever little system lets you record moves and walk-throughs, and play them back with the FCL. Practical uses include lift rides, whereby pressing the button for floor 1 runs the animation of the lift moving up to the first floor. If you played the test game in the first kit, you may remember the boat ride to the island. This works on the same sort of principle.

NEW INSTRUMENTS

There are a couple of new instruments you can add to your panels to make them all the more informative and exciting – dials and timers. These can add completely new dimensions to your games, such as a dial to represent the weight of objects you are carrying, or a timed race through a series of rooms.

BORDERS (SPRITES)

You can also now add sprites to your borders and animate them, meaning that the border needn't be simply a box to hold the view window. The border can overlap into the main play area too, giving you the option of creating a Heads-Up Display, or recreating the Tribbles from Elite.

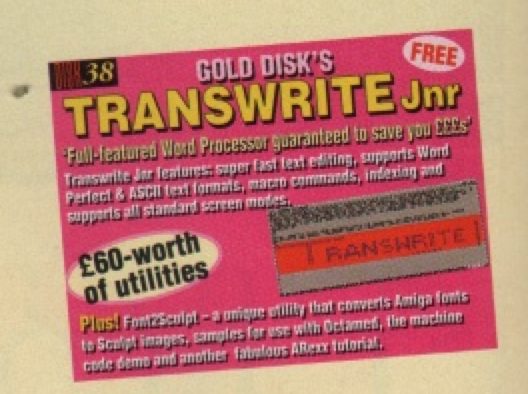
CLIP ART

Along with the main package disk, you also get a disk packed with ready-made objects ready to be dropped in. The objects are all catalogued in a colour supplement, and have been designed by the official Kit Club, a group of enthusiasts who not only came up with all these shapes, but also suggested most of the improvements to the system that went into creating *Kit II*. Who says software houses don't listen?

Welcome to CU Amiga's Coverdisks, this month reaching numbers 38 and 39. We lead off with Gold Disk's stunning Transwrite Junior word processor, which is supported by, as they say, much, more...

38

COVERDISKS



TRANSWRITE JUNIOR

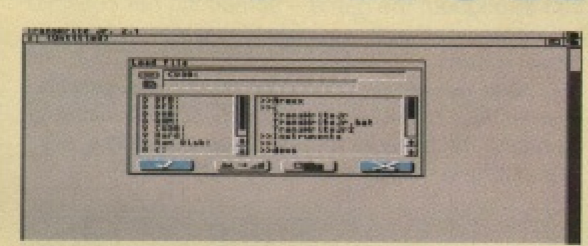


One of the Amiga's most popular uses – when they're not being used to play those new-fangled game things, that is – is word processing. Even if you don't own a printer you are going to need a text editor at some stage. Whether you're programming, writing documents, making notes or creating a list of addresses, the use of the typed word is almost endless – or at least longer than could comfortably fit within these coverdisk pages.

Well, beneficent people that we are here at CU, you'll find on this month's disk a word processor especially commissioned by us from one of the US's leading software publishers, Gold Disk. Most people may know how to use a keyboard to type, but there is a bit more to it than that. So, just in case you get confused or stuck, here is a complete guide to using your new word processor...

LOADING DISK 38

Simply insert Coverdisk 38 into DF0: and switch your machine on. A series of icons will appear, so simply double-click with the mouse on the one you wish to load.



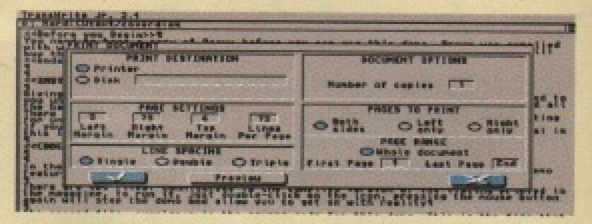
THE PROJECT MENU

Load: The first thing you may want to do is to load in some text from disk to play around with. Select 'Load File' from the project menu and a requester will appear in the centre of the screen. The top string gadget contains the directory path name of the current directory (you can change this by simply clicking on it and typing in the name of the directory you want). Directly beneath this is the filename gadget, which should initially be blank . On the left-hand side of the directory is a list of all the root directories available. These are denoted by a 'D' (a device), a 'V' (a volume), or an 'A' (indicating an assigned device). Note that some of these items may appear twice under different names – for example, both 'DF0:' and 'CU38' will appear, although they both refer to the same disk. If you have a lot of volumes or devices, you will need to use the scroll bar (situated immediately to the right of the list) to see them all. To select a device, simply click on the name in the window. It will replace the directory path name in the topmost gadget and the directory will be loaded into the list on the right. To select a file, simply click on its name and it will appear in the filename gadget. To load it immediately you can simply double-click on the name. If the file is in a subdirectory (indicated by chevrons '>>' in the list) double-clicking on that name will make it the current directory.

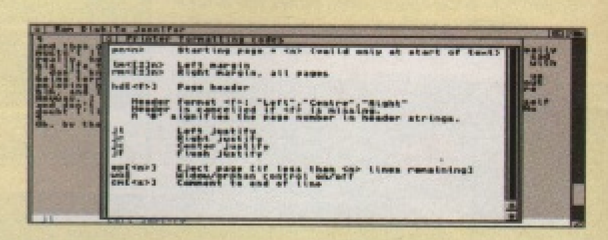
There are four buttons along the bottom of the requester. The first is the equivalent of 'OK' and will go ahead and try to load the file selected. Next, is the sort button which will sort all the names into alphabetical order. The drawer button will skip back to the previous directory and the large 'X' is the equivalent of 'CANCEL'.

Save: This will automatically save the file under the name indicated on the top bar of the text window .

Save As: This is much the same as the load option, but in reverse. The same requestor will pop up and allow you to move around the directories as before. Simply enter the document's name in the filename text gadget and click on the tick.



Print: The print option allows you to print out the text using the current printer selected in preferences. From here, you can select the page size (configured to match the size of paper you are using) and the number of copies you require. You can also print the file to disk – much the same as using the CMD redirection program from Workbench. If you want to check the appearance of the output select the preview button on the bottom of the requestor. After a few seconds, a hi-res interlaced screen will appear with the text rendered over a page, exactly as it will appear when you print out. This is useful for checking for widows and orphans, as well as making sure the margin settings were correct.



Formatting Codes: This selection brings up a window explaining the text-formatting codes. Clicking on a particular code will place the option at the current text position. The codes will only affect the text when printing, so it is a good idea to check that they are in the right place by using the preview print option as described above.

About: As is customary in Amiga programs, this displays some additional information about the program and its programmers.

Quit: Pretty straightforward, really. If you try to exit when there is still unsaved text present, a requester will pop up asking if you know what you are doing (if only real life was as easy).

THE EDIT MENU

This contains all the customary editing controls for highlighted text. You can highlight text simply by clicking at the beginning of a section and dragging the mouse to the end (with the mousebutton held down). These options are usually used via the keyboard shortcuts, but they are available in this menu anyway.

```
TransWrite Jr. 2.1
Hard:CUtext/coverdisk
<<Before you Begin>>¶
You need to have a copy of Arexx before you can use this demo. Arexx was supplied
with workbench 2.04 by commodore, but if you are still running 1.3 you can still
buy the Arexx package.¶
<<ends>>¶
¶
¶
<<INSTRUMENTS>>¶
¶
Giving away the most excellent soundtracker clone to data wouldn't be much good to
you unless we gave you some samples to play with. In this drawer you will find all
the basic samples you will need to make virtually any kind of music.¶
There are several types of percussion sounds, synths and strings all here waiting
for you to load them in to Octamed.¶
If you're not sure how to create your own music check out the detailed tutorial in
this issue.¶
¶
<<CODE>>¶
¶
In the code drawer on CU38 you will find the machine code for the scrolling demo
featured in last month's "Make your own Demos" feature.¶
There are two files. CuAmigacode is the compiled version of the listing printed in
the magazine, to run it, just double-click on the icon. pressing the mouse button
again will stop the demo and allow you to get on with reality¶
The second file, cuamiga.s is the source code for this demo. This is the file that
```

Cut: Removes the selected text from the document and places it in the clipboard. This is not irreversible, the text can be pasted back.

Copy: This is much the same as cut, but the original text is left where it is in the document, in addition to the copy being placed into the clipboard.

Paste: Inserts whatever is in the clipboard into the text at the current position. Note that this does not empty the clipboard, so multiple pastes can be made.

Cut Word: This is similar to the cut option except you do not have to highlight any text. Instead, the word at the current cursor position is moved into the clipboard.

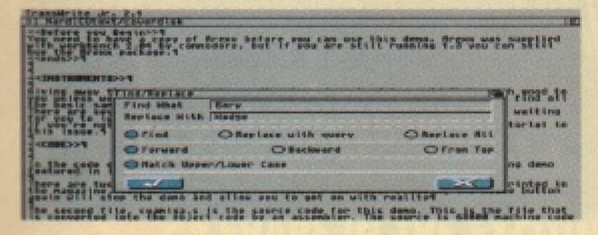
Clear Highlight: In case you have accidentally highlighted some text you didn't mean to (it can easily happen) this option will restore everything to normal.

Highlight All: In extreme cases you can use this option to highlight all the text in your document – a lot easier than trying to drag your cursor through the whole thing.

Erase all text: Okay, so you've made a major botch job of the whole thing. Use this option to start over.

COMMANDS

This menu is for commands which will have an effect on the whole document – regardless of whether text is highlighted or not. In *TransWrite* the spelling option is available from here.



Find/Replace: This is a handy option used to find a particular word. You may have written 'Nick Veitch is a layabout' somewhere in the text and want to go to exactly that spot, or perhaps change the word 'layabout' to 'buffoon', 'git', or something. This is the way to do it. A requestor will appear on the screen. The top-most string gadget is for the word you want to find, whilst the one below is for the word you wish to replace it with. The buttons below allow you to simply find the word, replace it conditionally or replace it without bothering to ask. Underneath these buttons are a further set allowing you to chose to begin the search from the beginning of the document or to search backwards or forwards from the current position. There is even an option to set case sensitivity on or off (i.e if the search string contains 'pay rise', whether to recognise 'Pay Rise' or not).

Search Again: If you have executed a search but have subsequently discovered that you have gone to a different position to the one you really wanted, you can continue the search using this option.

Toggle Paragraph Marking: You will notice while writing that a paragraph symbol appears at the end of every line with a [RETURN] at the end. This option allows you to turn these symbols off.

SPECIAL MENU

The special menu contains features relating to the program environment

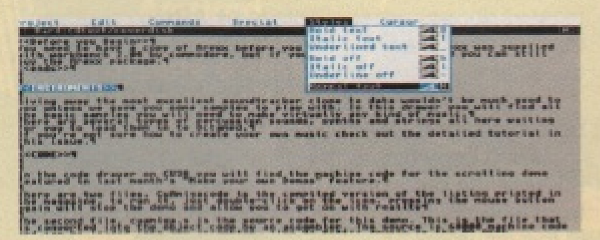
Set Colours: If you are suffering from eye strain due to the current colour settings you can change them using this requester. The arrow button returns the settings to normal if you make a worse mess when you are trying to change them.

Count Words: When writing an essay, report, or an incredibly long coverdisk section of a magazine, it is important to keep a check on how many words you have written (2601 so far, if you're interested). Activating this option will produce a small box in the middle of the screen telling you how far you have got.

Line Spacing: This is another eye saving manoeuvre. It will vary the amount of space between successive lines of text. Choose the width that suits you.

STYLES

There are three text styles that can be handled by most word processors and they are all here.



Bold Text: This sets the text to bold (i.e. a thicker type). Note that this option is continuous until either turned off or the end of a paragraph is reached. If you have some text highlighted it will be converted into a bold style. These conditions work for all the other styles, too.

Italic Text: This sets the text into italic mode, with the same conditions as above.

Underline: Ditto, but with all the text underlined. Note that this option underlines spaces as well as normal characters. All three of these options have their 'off' equivalents.

Normal: This option removes all style codes currently operating.

CURSOR

These options move the cursor about. Obviously, they are most often used with their hot-key equivalents and most of them are self-explanatory. Only those which require further elucidation are listed below.

Center Cursor: This option scrolls the rest of the text so that the line which the cursor is on is now in the vertical center of the screen.

Restore Cursor: If you have accidentally sent yourself into the back of beyond textwise, you can go back to your last recorded position using this option.

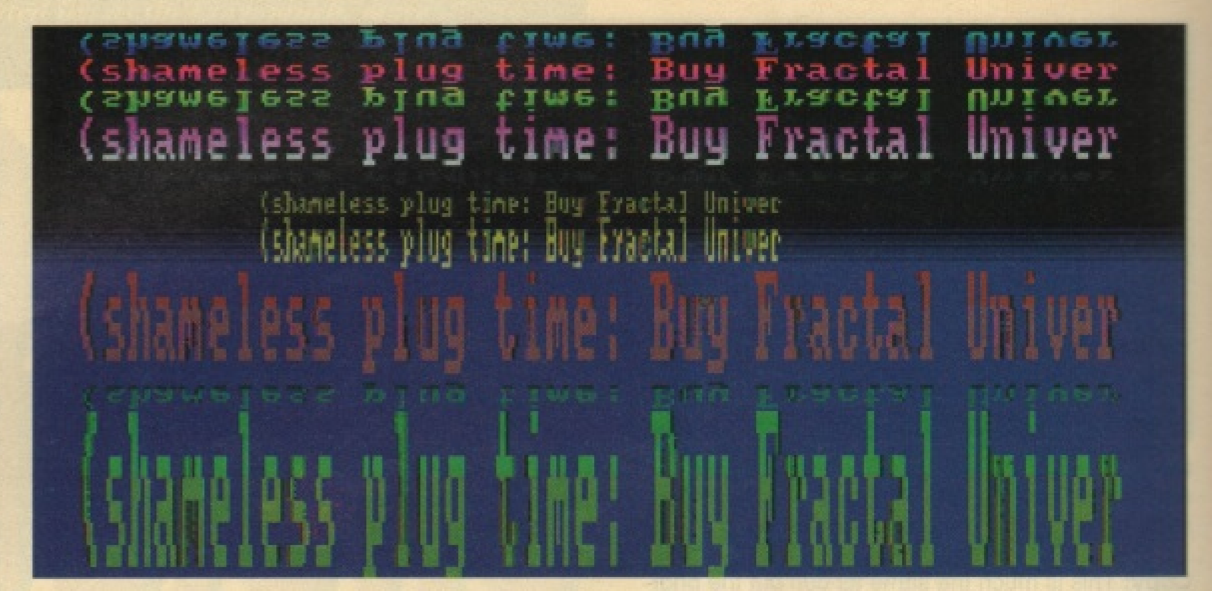
USING IT

Well, that explains all the menu options, but how do you actually use it? Quite simply it is a matter of typing away. The window is a standard Amigados type window, with the usual resizing and placement gadgets around the edge. Aside from that it's just a question of using your keyboard and typing away. In use you will find that *Transwrite Jr.* is faster, more intuitive and more flexible than most other word processors, and quite a bit easier to use.

DEMO CASH

Have you ever wanted to have your work featured on one of CU AMIGA's Coverdisks? If you've designed a commercial-quality game, an impressive animation, or a dazzling demo, then now's your chance to earn a little cash as well as having your work seen by 110,000 readers. That's right, you heard the magic word – CASH! CU AMIGA will personally pay to include your work on our disks, as long as it has been specifically written for us, and is available nowhere else. Sound too good to be true? Well, it's a bona fide offer, so if you have a program you are proud of, then send it to Dan Slinsgby, the Editor, and he'll get straight back to you with an offer if it is deemed good enough for the coverdisk. Send your disks to CU AMIGA CASH FOR DEMOS, Dan Slingsby, CU AMIGA, 30-32 Farringdon Lane, London, EC1 3AU.

CODE



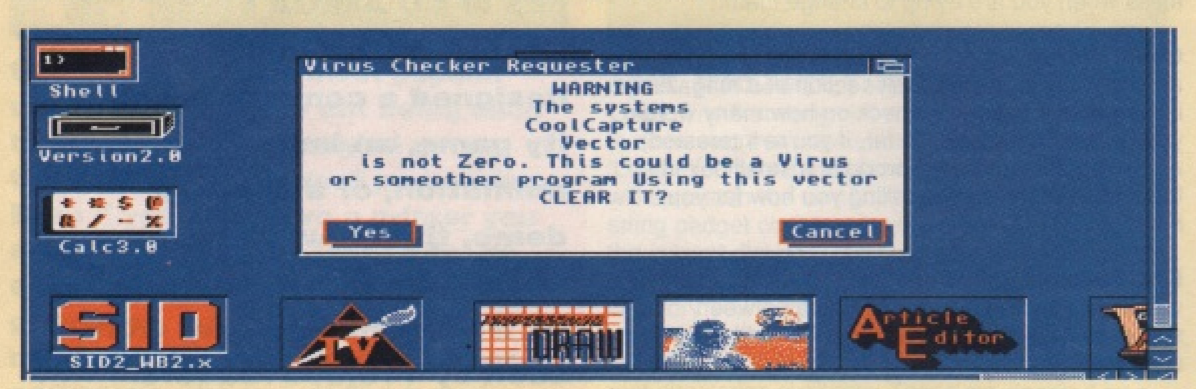
In the code drawer on CU38 you will find the machine code for the scrolling demo featured in last month's 'Make Your Own Demos' feature. There are two files. CuAmigacode is the compiled version of the listing printed in the magazine. To run it, just double-click on the icon. Pressing the mouse button again will stop the demo and allow you to get on with reality.

The second file, cuamiga.s, is the source code for this demo. This is the file which is converted into the object code by an assembler. The source is 68000 machine code and can be loaded into any assembler, like HiSoft's *Devpac* or the PD *A68k* assembler.

Note that this is the FULL version of the code, including all the font definition data. The listing in last month's magazine was for reference only and you need not have bothered to type it in.

VIRUS CHECKER

The unofficial motto here at CU Towers is Be Pure, Be Vigilant, Behave. With this in mind we have included a Virus Checker on the disk. This checker will intercept normal bootblock viruses and also scan files for IRQ infection or damage from the notorious Saddam virus. The Checker is summoned by the start-up sequence on this disk, and all disks which are subsequently placed in any drive will automatically be checked. Whilst running, a small bar will appear on your workbench screen. This will cause an activity log to appear along the menu bar of the workbench window, giving details of how many disks have been checked and how many virii found. Holding down the left button whilst the bar is activated will reveal a menu allowing you to manually initiate a check on any disk or on your Amiga's memory. To be safe, you should copy this program to your normal boot disk and either add the line 'run >nil: Virus_checker' to your startup sequence or place the icon in your WBStartup drawer (Workbench 2.04 only).



IF YOUR DISK WON'T LOAD...

In the unlikely event of your CU disks not loading, remove all cartridges and peripherals and try again. If it still won't load, pop it in an envelope and send it to: CU DISK RETURNS, PC WISE, MERTHYR INDUSTRIAL PARK, PENTREEBACH, MID GLAMORGAN, CF48 4DR. They will then test your disk and send a replacement as soon as possible. For any urgent problems, though, please ring the PC Wise helpline on (0443) 693233 and this line can be reached between the hours of 10:30 and 12:30 during weekdays. Whilst CU AMIGA makes every effort to check our Coverdisks for all known viruses, we can accept no responsibility for possible damage caused by viruses which may have escaped our attention.

AREXX

To run this demo, you must ensure that rexxarplib.library and screenshare.library are in the libs: directory as well as rexxsyslib.library and rexxsupport.library. The two new libraries can be found on this coverdisk, but note that they must be copied to the libs: directory of your boot-up disk. You must also have a copy of ARexx and all the support files before you can run this program. It may be easiest to copy these libraries onto the disk you normally run ARexx from – but be sure to back it up first.

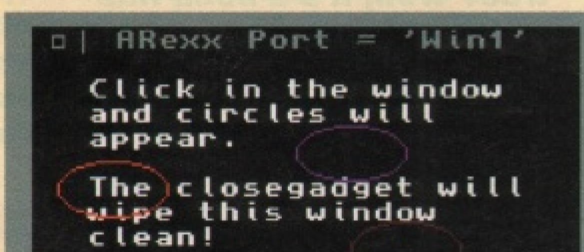
Furthermore, you must also ensure that the support and graphics libraries (NOT the rexxsys.library) are recognised by ARexx, by using the following lines, either in a DOS script or from the Shell:

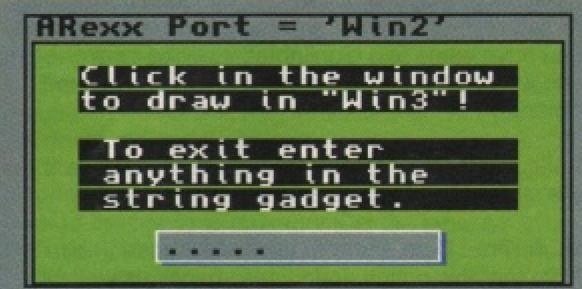
rxlib rexxsupport.library 0 -30 0 [RETURN] rxlib rexxarplib.library 0 -30 0 [RETURN]

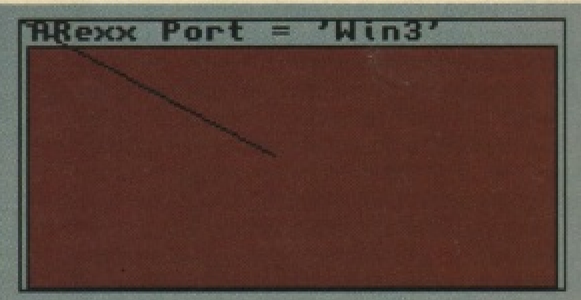
When experimenting with this demo, you can address the ports, AND use the rexxarlib.library from external programs too! See the ARexx series in this issue of CU Amiga for more details.

BEFORE YOU BEGIN

You must have a copy of ARexx before you can use this demo. ARexx was supplied with Workbench 2.04 by Commodore, but if you are still running 1.3 you can buy the ARexx package from most software outlets.








```
This window is used by the main loop to inform us of what messages the
main control loop (ARexx port = CHECK) has received.  You can use the
functions of the library to control the screen from any ARexx program

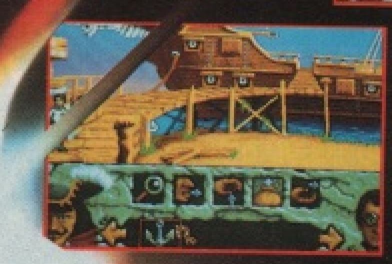
 Message from "Win1" :-  circle drawn...
```

HOOK™

PETER PAN has now grown up, far away from NEVERLAND, but his old enemy CAPTAIN HOOK has not forgotten and schemes his revenge.

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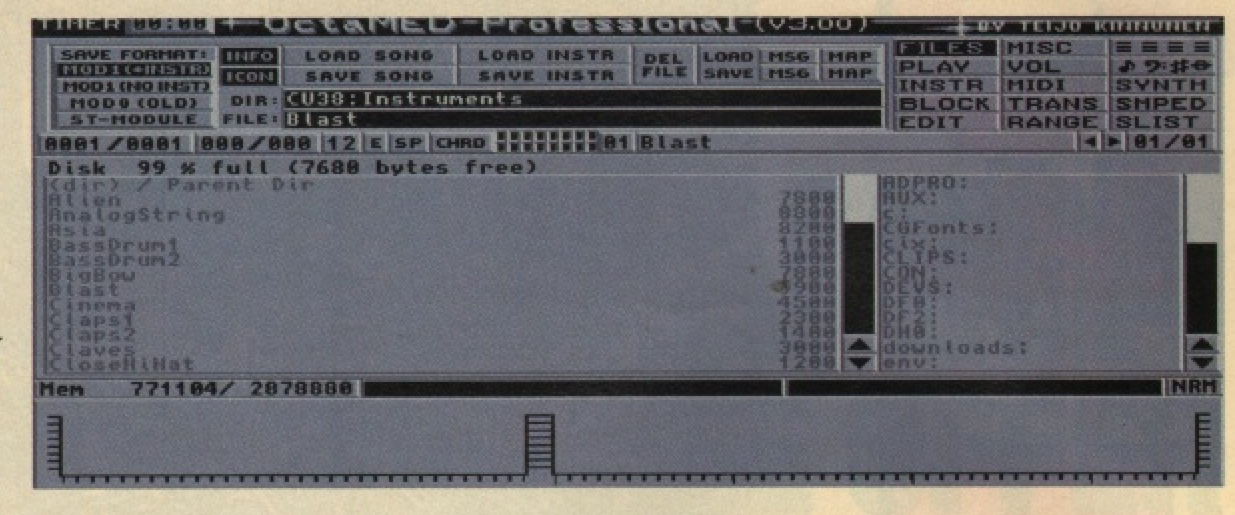
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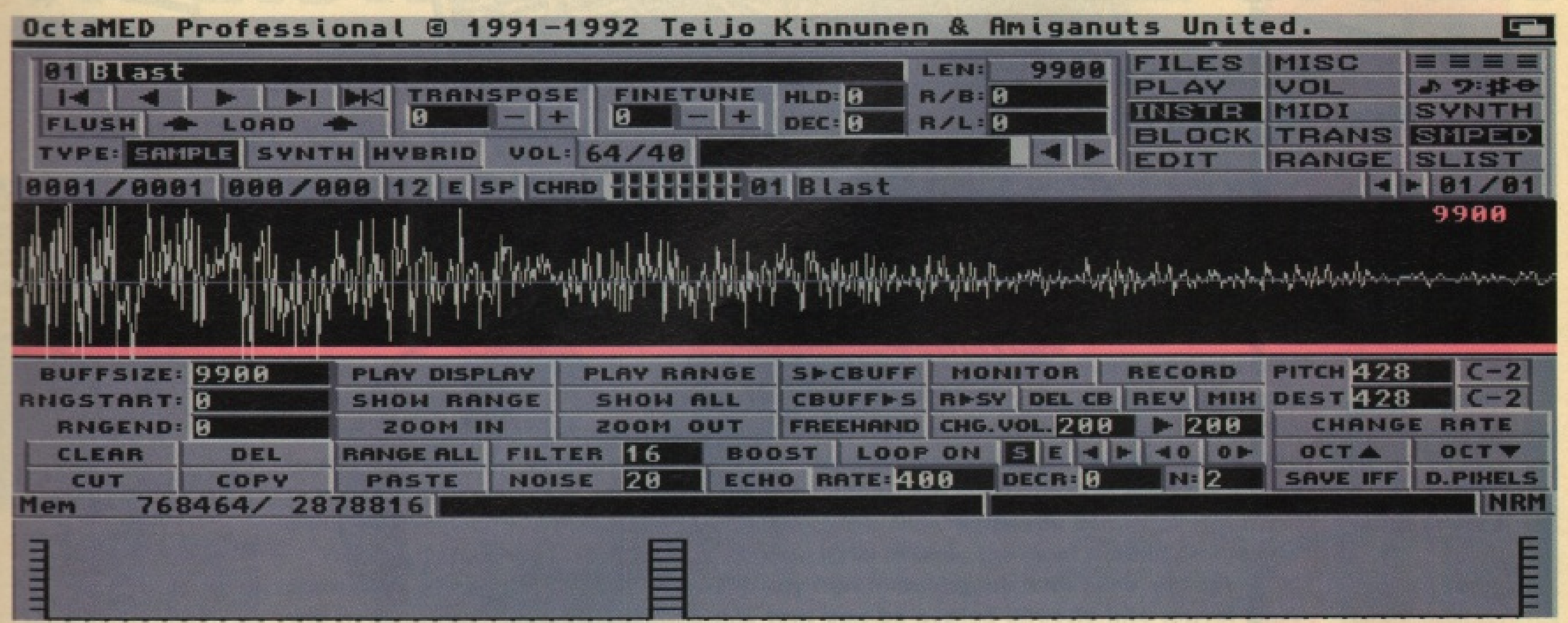
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TELEPHONE: 061 832 6633 · FAX: 061 834 0650

INSTRUMENTS

Anyone who bought last month's CU AMIGA is probably already engrossed in the delights of *OctaMED Pro*. However, giving away the best *Soundtracker* clone to date wouldn't be much good to you unless we gave you some samples to play with.

In this drawer you will find all the basic samples you need to make virtually any kind of music. There are several types of percussion sounds, along with synths and strings waiting for you to load them in to your copy of *OctaMED*. If you're not sure how to create your own music check out the detailed tutorial in this issue – it can be found on page 172.





AZSPELL

AZSpell is a set of programs which will spell-check any ASCII text file. The package is supported by a dictionary of nigh-on 12000 words, and, whilst this should be more than enough to check most documents, there's also a facility to add your own words to the existing dictionary.

Before you run the program you must run the file called AZAssign. This assigns a logical device unit 'AZSpell:' to the current directory so that the spelling routine can find the dictionary. This means that you can use *AZSpell* on any disk you like as long as you copy all the files and remember to run the AZAssigns program first.

Running *AZSpell* will produce a filename requester. You must enter the name of the file with the full path – e.g. DF0:utilities/font2Sculpt/font2sculpt.doc – so it is a good idea to make sure that you know where the file is. If you do not name the file correctly, *AZSpell* will exit with an error message.

When in operation, a requester will pop up displaying information on the file and the dictionary on the right-hand side. The bottom of this is then taken up with a text gadget, containing a string of text to be checked from the file. The text will scroll past as the file is checked. When a word appears which *AZSpell* is unsure of it will be highlighted and a list of alternative spellings will appear to the right-hand side of the menu. If there are a large number of alternatives you may scroll up and down the list using the two gadgets labelled 'UP' and 'DO' in the upper right-hand corner. Clicking on one of the words will transfer it to the correction gadget. Once you have done so, you must select one of the four options in the middle of the menu:

Add To Dictionary: This means that the word was correct and should be added to the dictionary for future reference.

Ignore Word: This means that the word is correct and the program should continue to spell check the rest of the document. This is useful for surnames, product names, etc., which are correct but you don't particularly want to add to the dictionary.

Correct Word: Replaces the word in the text with the word currently in the text gadget.

Correct And Add: If the word is incorrect, but nevertheless was not one of the suggestions listed, you can correct it manually by typing into the 'correction' gadget. Use this option to simultaneously correct the word in the text and add it to the existing dictionary.

At the end of the spell-check session, the file will be saved again with all the corrections made. You may also be left with an additional file – an update file for the dictionary with all the words you have asked it to add. This should be merged with the main dictionary file by double clicking on the AZMerge icon.

The words in the dictionary are stored in a very simple ASCII format with one word for each line. This makes it very easy to delete words you have mistakenly added to the dictionary by simply loading a text editor and removing the offending line. You can also add words this way if you wish.

BEFORE YOU BEGIN

Remember that the program will not work if you do not run the AZassign program first. This tells the spell-checker where all the necessary files are. This may seem a bit of a pain but it means that you can copy all the files into any directory you like and the spell-checker will still work.

APOLOGY

Looking at your Disk 38 label, you will probably notice that *Font2Sculpt* is actually missing from the disk contents. This is due to a last minute compatibility problem which, unfortunately, only came to light after the disk label went to press. We apologise for this, but the situation was completely out of our hands and, as soon as a fully-working version is available, we will be bringing you the utility in a forthcoming issue. Whilst every attempt it made to ensure that the contents of our disks match the details given on the labels, we cannot be held responsible for any last-minute changes. Sorry.

ARSENAL FC





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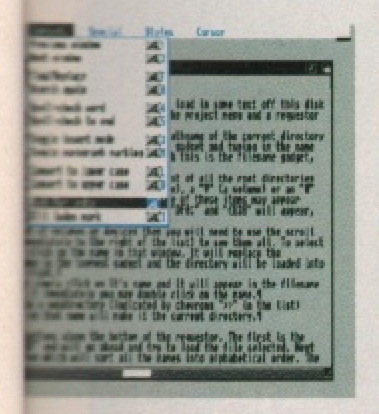
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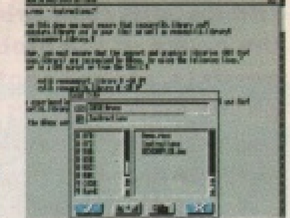
As part of our continuing policy of offering the Amiga user stunning value for money, we are pleased to announce another fantastic upgrade offer.



By now, you will no doubt have loaded and used the excellent word processor on our coverdisk. You should already be able to tell that *Transwrite* is a program with a pedigree of years of testing and refinement making it an almost indispensible tool for all text operations, including programming, writing, taking notes, and editing batch files.

SO WHY UPGRADE?

Impressive as *Transwrite Junior* is, its parent program has even more features that make it the best multi-purpose text editor available. Imagine being able to make notes and edit text files whilst multi-tasking on the Workbench screen. Imagine being able to automatically index every key word in the text you have written. Imagine being able to check the accuracy of your text with a fully featured spell checker working with a dictionary of over 90,000 words (in English!). With *Transwrite* you can.



***Transwrite* has been specifically designed by Gold Disk, the most prolific Amiga productivity software publishers, to tackle any text handling job with ease and speed. It will even accept *Wordperfect* files and text can be copied directly into any of Gold Disk's DTP software.**

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CU AMIGA

Once again, CU Amiga has teamed up with the brightest Companies to bring the best in game demos. Starting with Core's Premiere we take another excursion with Guy Spy, before revealing Project X's bonus level – all this and Graphics DIY clip art, too!

39

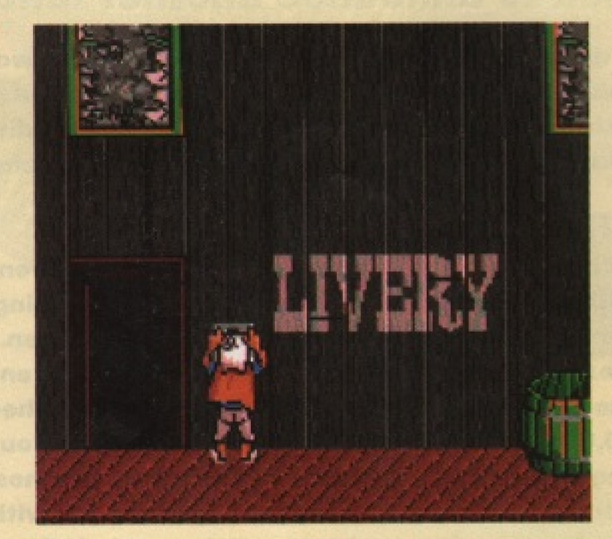
COVERDISKS



LOADING DISK 39

Put the disk into the Amiga's internal drive, and switch the machine on. The disk will now auto-boot and will reveal a bank of icons revealing each demo's name. Simply double-click on the required icon with the mouse, and it will load. If, for any reason a demo fails to load, please remove any external cartridges, drives or printers which may be the cause of the problem. If the problem persists, please contact PC Wise on the phone number given elsewhere in these pages. Please do not ring the CU offices regarding disk problems, as there's nothing we can do. Sorry.











PREMIERE

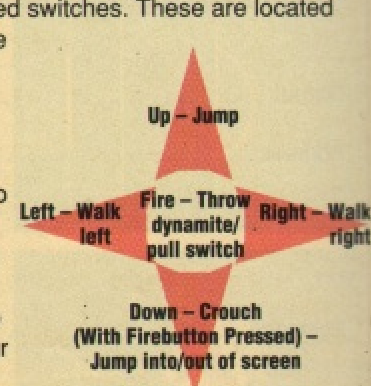
Core Design –1Mb Only

Without a doubt, *Heimdall* was one of the most graphically-stunning games ever to grace the Amiga. However, undaunted, Derby-based Core Design are set to release a game to outdo even the Viking-based epic. Whilst his 8th Day partner, Ged Keaveney, beavers away on the storyboard for *Heimdall II*, Jerr O'Carroll has teamed up with programmer Dan Collins – *Premiere* is the result.

Set within a studio complex, *Premiere* stars one Clutch Cable, a film editor whose tedious task in life is to splice together the latest films. However, whilst busy on his latest epic, Clutch has had all his hard work stolen by a rival studio – and the film has to be ready for the next day! The thieves have scattered the reels throughout each of the six studio areas, and Clutch must invade each set and retrieve the missing spools. However, the people currently working on each set don't take too kindly to Clutch's sudden cameos and set out to put paid to his retrieval efforts.

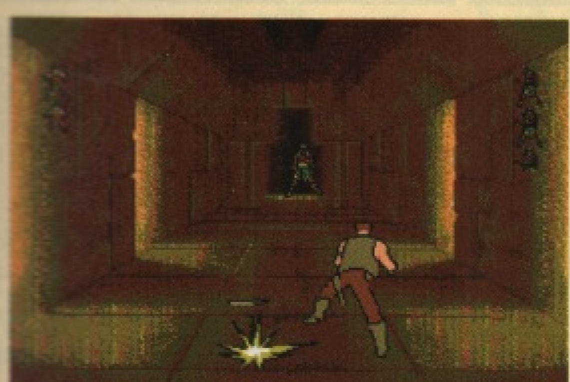
In the final game, Clutch's exploits will take him into six different styles of film – all of which are reflected in the graphical themes and characters contained within. There are B-Movies, Black And White sets, and even a Wild West level – as featured on our demo. Starting on a large plateau, the player must guide Chuck across the eight-way-scrolling set as he attempts to open up previously inaccessible areas of the set using the trip switches which dot the walls. There are also the aforementionednasties prowling the set, and these must be avoided or killed – using the dynamite Clutch holds.

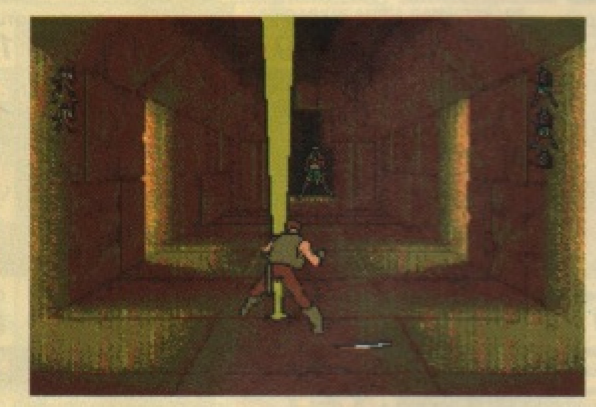
Our large-quiffed hero can walk, jump, and throw whatever weapon he is carrying. The play area is split over two 'depths', and pulling down on the joystick whilst pressing fire, prompts him to jump 'into' the screen. As Clutch picks his way across the nasty-laden level, he must also locate the aforementioned switches. These are located on the walls of the massive set and are activated by pressing fire whenever Clutch is standing next to one – however, doing so may not always have the desired effect. So always be on your guard...











GUY SPY

Readysoft

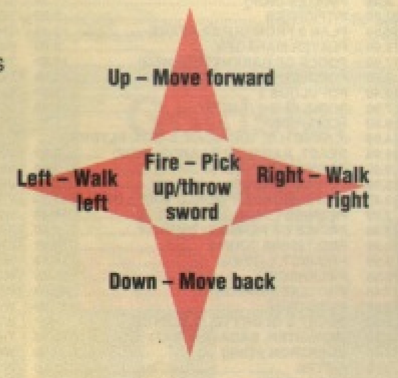
Such was the popularity of our last *Guy Spy* demo we've teamed up with Canadian developers, Readysoft, to bring you another hefty slice from this cartoon-quality arcade/adventure (reviewed this issue on page 54). Whereas last time we left Guy in the midst of a shoot out set in a ski lift, this time we meet the rugged hero as he is attempting to track down the evil Von Max. Von Max is the evil genius who is currently scouring the world in search of the crystals he needs for a deadly ray gun he has pieced together. In the full game, Guy is nearing the end of his task, but first must search a massive pyramid for the way out. However, standing between Guy and the exit is a rather peeved Egyptian God who must be killed before you can pass.

With the ancient walls looming high above him, Guy is standing opposite the God-like figure who, every now and then, raises his arms to summon lightning to smite our hero down. All is not lost, though, and, magically, swords appear in front of our hero and these can be lobbed at the distant figure to sap his energy – but a direct hit from one of his bolts will do you more harm!

Both Guy's and the God's energy are shown to either side of the screen, and are represented by small images of each character. With each hit the character concedes, these are slowly reduced until one of you shuffles from this mortal coil. Guy can move freely within the catacomb, but cannot move too close to the evil Deity as an invisible wall blocks his path. Equally, the God can only shuffle from side to side slightly so is similarly limited. And another feature in your favour is that Guy rarely misses when throwing swords, whereas the God's actions can be anticipated as the bolt always strikes where you were standing when he raises his arms.

There's no real pattern to the God's bolts, but the easiest way to kill him off is to collect the sword, move slowly forward and then throw it when you are directly in front of him. This way, Guy is constantly moving so the enemy cannot get a fix on his bearings to zap him. However, even standing close to where a bolt hits the floor can relieve you of your energy, so don't get too cocky or our hero will start to resemble a spent Swan Vesta!

So, don't let the stunning cartoon-like graphics put you off, prepare for battle and get ready to take on the evil deity on his own territory – after all, Guy is supposed to be a rugged hero...





STAR TREK CLIP ART

For those of you following our excellent Graphics DIY feature, you'll be pleased to learn that we've tried to save you some time. What have we done? Well, we've supplied a number of images which will allow you all to polish up your techniques rather than fiddling about trying to get Spock's ears to line up. Supplied on Disk 39 are a selection of *DPaint* images ready for incorporation into your home-grown animations. Created by our very own Graphics DIY maestro, Peter Lee, the disk contains a page of Star Trek-related images ready for you to – literally – cut out and keep.

Simply load your copy of *DPaint* and then insert your copy of Disk 39. Load the Clip Art file from the menu screen and the images will appear on screen. Simply save each image out as a brush and use them with your prepared work – easy, eh!

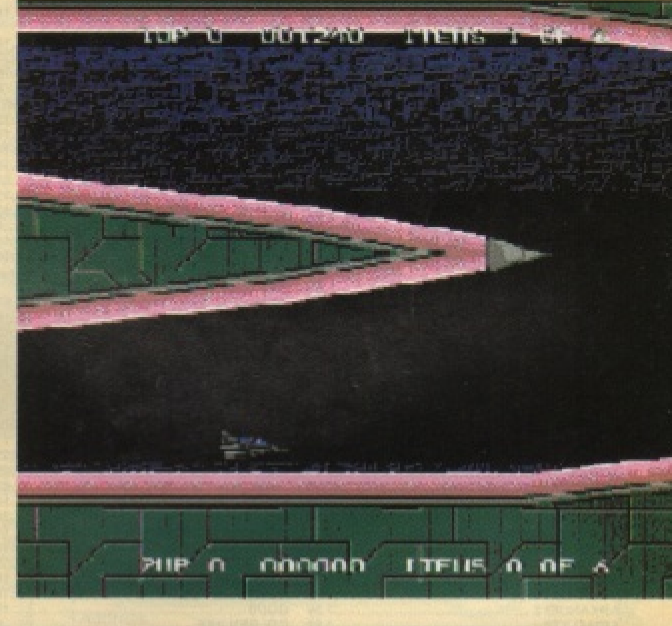
PROJECT X Bonus Level – Team 17

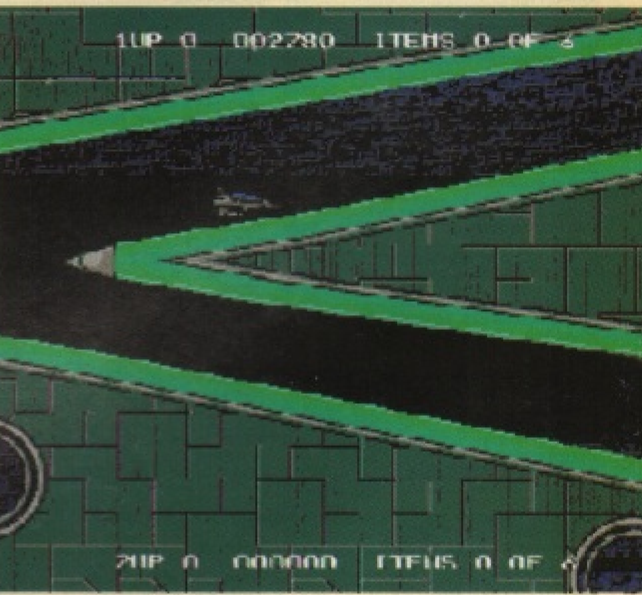
This is a real treat for any owners of unexpanded machines who, consequently, won't have experienced the delights of Team 17's 1Mb blasting extravaganza. *Project X* is quite simply the meatiest blaster ever to grace the Amiga, and our demo reveals the super-fast bonus stage which is hidden somewhere within the game. To get to this stage in the game, you have to complete two stages of blasting, but with our demo you can hone your skills between blasting sessions.

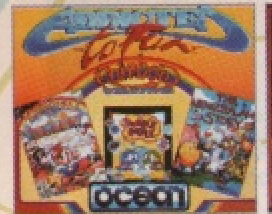
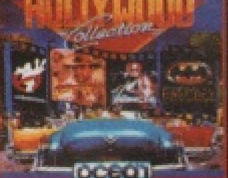
Controlling the latest in ultra-fast ships, the player has been left to pilot their way out of a labyrinth of narrow corridors. As the player struggles to keep their ship from hitting the deadly walls of the tunnels, they must also attempt to collect a series of blob-like icons which are littered throughout the stage. This, however, is easier said than done, and as the player progresses, the tunnels get tighter and start to move progressively faster – making the challenge even tougher! Luckily, though, the odds aren't totally stacked against you, and as the tunnels come screaming towards your craft, a digitised voice barks instructions as to which route to take.

So, grab a joystick for the ride of a lifetime – you may live to regret it...

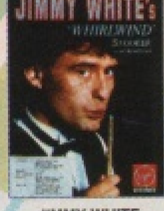
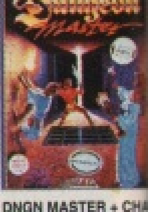




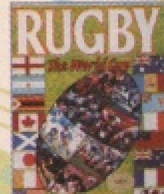




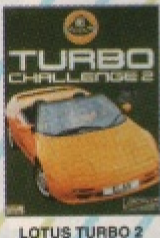
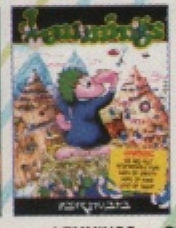
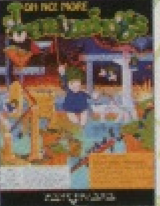
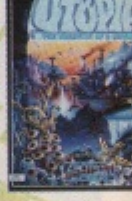



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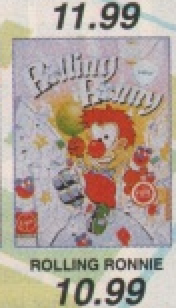




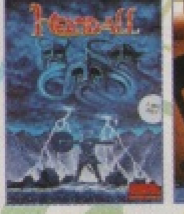
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(DYNAMITE DUX, NINJA WARRIORS,
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HUNTER 9.99
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IK+ 7.99
INDIANA JONES ADVENTURE 9.99
INDIANAPOLIS 500 ...... 14.99
INDY HEAT 16.99
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JET SET WILLY 9.99
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JINXTER (M/SCROLLS) 3.99
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KICK OFF 2 RETURN TO EUROPE 7.99
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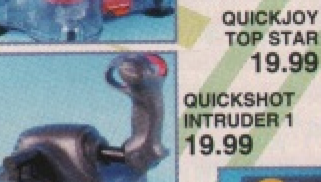
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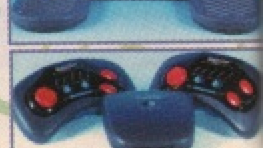

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AWARD WINNERS

Quality is a nebulous concept. What's one man's meat is another man's poison. Arguments have raged about the merits of particular software since time immemorial (1985 in the Amiga's case!). Enter the Fat Agnus awards! Here, we present a 7-page stroll down memory lane, and pick out what, in our opinion, are the best utilities, games and related software ever to appear on the Amiga. It's by no means comprehensive, it's completely subjective, and it might even be a tad controversial, but what the hell – that's the whole point.

HOW WE PICKED THE NOMINEES

To help keep things simple, we've separated the productivity software from the games titles and given them their own distinct sections. Each one has then been subdivided into a number of different categories. For instance, shoot 'em ups and RPGs have their own awards as do animation and paint packages. Each category has a maximum of three nominations, which caused much argument in the CU AMIGA offices over what should be included and what shouldn't. There's also no overall winner as we're leaving that up to you (see the voting form at the end of this feature). Just because we've listed three possible candidates doesn't mean you have to vote for them. Far from it. They are merely included as memory aides to help you choose from the myriad of titles available. We've also included small comment boxes if you'd like to explain why your voting for a particular program.

But, with no further ado, let the voting begin....

PRODUCTIVITY SOFTWARE

The Amiga may not be at the forefront of the professional market but there is still a large amount of productivity software available for it from spreadsheets to paint packages, samplers to database software. Over the coming pages this area of home computing will be broken down into fields and then into separate categories, hopefully covering all the major areas of home computing. Remember, it's your vote that will decide the winners, the names listed under the various categories are only to jog your memory.

MUSIC

The advantage of the Amiga for sound purposes has not been widely recognised amongst the professionals, but now the times they are a changing (as Bob Dylan sang), no doubt due to the excellent software and hardware becoming available.

COMPOSITOR

In the good old days you knew where you were with music packages. If you wanted a decent MIDI scoring package only one to choose from – *MusicX*. But that was some time ago. Since then we have seen the release of *Bars&Pipes* and *KCS3.5*. *Bars&Pipes* is not only a very powerful compositor with an unlimited number of tracks and notations but is also very easy for the novice to get to grips with. *KCS3.5* is the latest incarnation of Dr.T's sequencer package, offering many features not found on any other Amiga software, or in fact any other package on any machine. *SuperJam* must also be considered as one of the most innovative packages of recent years because of its radically different and easy to use play along system.

NOMINATIONS

1. **KCS3.5**
2. **Bars & Pipes**
3. **Super Jam**



SAMPLING SOFTWARE

In contrast to the composition software there are quite a few contenders for the sampling crown. Microdeal are probably the best known contenders in this field with their track record of excellent hardware and software. *AMAS2* is a combined 8-bit sampler and MIDI interface, and supplied with software which competes with all but the best of the rest. Speaking of which, there is probably none better than the *Audio Engineer Plus*. Other sampling packages worthy of note are the *Megamix Master* from Rombo and *Audio Master IV*, with its digital filtering and real-time stereo effects. Possible trouble may come from *Sunrize*, who produced the first 8-bit sampler and *Perfect Sound* all those years ago. They're back with the first 12-bit sampling hardware and 16-bit editing software Studio 16 (reviewed this issue).

NOMINATIONS
1. **Studio 16**
2. **Audio Engineer Plus**
3. **AMAS2**

GRAPHICS

The Amiga is probably best known throughout the computer community for its superb graphics ability. Although not up to the standard of Super-VGA on the PC, the Amiga does present a much cheaper platform. Because of the great amount of power given to home users it is not surprising that there are lots of products and lots of awards up for grabs in the graphics section.

ANIMATION PACKAGE

The Amiga is over-loaded with animation software, and has been almost from day one. Whether the main consideration is speed or functionality or ease of use, the Amiga is usually able to beat the pants off the competition and these packages are the reason why. Although it doesn't allow you to design your own animations as such, *Vista Professional* is still a contender because of the stunning and realistic animation sequences that can be constructed with this landscape generator. Any of the Real Things series should also be considered. Whilst they are not actually animation packages as such, they are intended to be used for creating your own animations. Of course, it would be impossible not to mention the legendary *Deluxe Paint III* or *IV* here. Not only are these packages generally regarded as the best all-round performers in this field, but they actually helped decide the IFF standard in the first place. For creating incredibly long, cartoon-like animations though, nothing has ever topped *MovieSetter*, still used by ace demo-makers such as Eric Schwartz.



NOMINATIONS
1. **Deluxe Paint IV**
2. **Vista Pro**
3. **Moviesetter**

RAYTRACING

Many of the raytracing packages could also probably be included in the animation section, as most of them support it. The question here is really what is the most important criteria for a raytracer – is it speed, ease of use or the quality of the results? There isn't that much to choose between most of them, even though they all approach the subject in a different way. Using a mathematical model, as in *Real 3D* is now quite popular because it gives a more realistic final image. *Calligari II* uses a similar system but its orientation is more towards manipulating shapes into the desired form rather than building them up from primitive objects. Don't forget *Imagine* though, which was the first rendering package to have proper surface mapping, and then there is *C-Light*, which, although quite horrible to use compared to the others has become a bit of a bargain since it became Shareware.

NOMINATIONS
1. **Calligari II**
2. **Real 3D**
3. **Imagine**

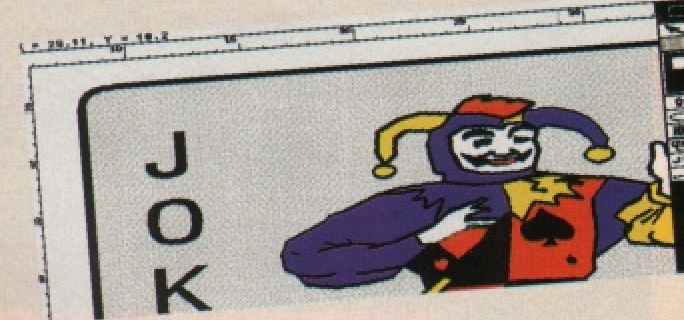
PAINT PACKAGE

Still, the bog standard of all graphics programs is the art package. What then could compare to the light boxing, morphing, stencil, palette and antialiasing features of the master of them all, *Deluxe Paint*? Well, how about *Fantavision* then? It has some advanced brush handling features that even *DPaint* can't match. And then there's *My Paint*, the only real art package for children.

NOMINATIONS
1. **Deluxe Paint**
2. **Fantavision**
3. **My Paint**

STRUCTURED ART PACKAGE

On the more professional side of things there are the structured art packages. These are like standard art packages except that instead of actually drawing an object, you show the program how to draw it, just like *Adobe Illustrator* on the Macintosh. There used to be only one contender in the field. With its postscript output and advanced screen dithering modes, not to mention the blend function which was more useful than *Corel Draw* on the PC, *Professional Draw* has always appeared to be the leader. Then there is the New Horizons entrant, *Design Works*. Although not as advanced in terms of features as some of the others, many people without an artistic training find it easier to use. And we mustn't forget *Expert Draw*, which can probably just about sneak into this category.



NOMINATIONS
1. **Professional Draw**
2. **Design works**
3. **Expert Draw**

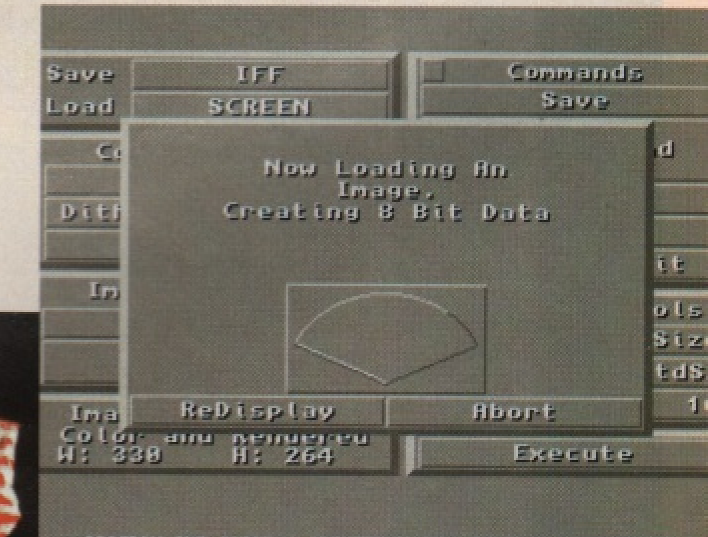
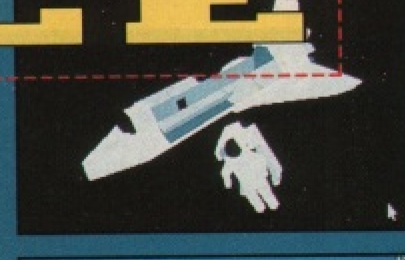


IMAGE PROCESSOR

Of course, all these packages are severely limited when it comes to image processing. It's a specialist task and only a truly dedicated piece of software can handle it. The first and oldest entrant in this field has got to be *PixMate*. Whilst restricted to the more conventional graphics modes, this package still has a large following, mainly because some of its features just aren't available anywhere else. ➤

SHUTTLE



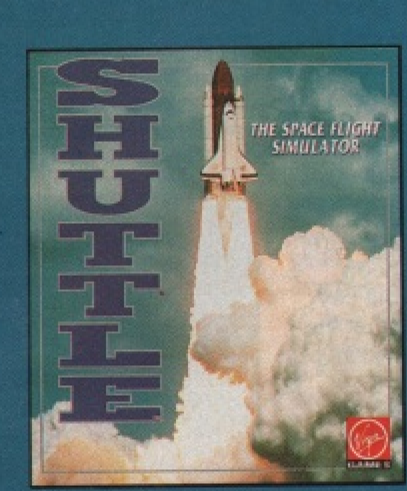


the space flight simulator

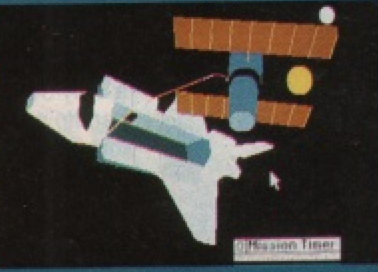
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AWARD WINNERS

Moving into the big league of 24-bit artwork is *Imagemaster* which easily has some of the most impressive morphing features seen on any machine. Probably, the most loved and best established 24-bit processing package, with its amazing array of file support and rendering modes, is ASDG's *Art Department Professional*.

NOMINATIONS

1. **Art Department Professional**
2. **Imagemaster**
3. **Pixmate**

VIDEO

One of the niche markets that the Amiga has more than a toehold on is the realm of Desktop Video. In this category effects and titling packages are going to have to fight it out amongst themselves. From the titling point of view, *Scala 500* is one to be watched. Although fairly new it has gained a large following due to its ease of use. But then there are the old pros in this field like *TV Text* and even Oxxi's *Videotitler 3D*, not forgetting *Title Page*. As



well as the titling packages, there are loads of effects and utilities packages. *Video Studio* springs to mind as does *Video Effects 3D*.

NOMINATIONS

1. **Scala 500**
2. **TV text**
3. **Video Studio**

PROGRAMMING

Although most of the games software for the Amiga is actually coded on IBM clones, there is still a great demand for programming in the friendly, interactive, multi-tasking operating system of the world's most advanced home computer.

INTERPRETER

Interpreters are interactive languages more likely to be used by the novice or keen amateur programmer. When you've got a machine like the Amiga you want to be able to use it and how better than with *AMOS*? Well then, how about *Easy AMOS*? Then there are the more traditional languages like *Hisoft Basic* or the recently released *Hisoft Pascal*. Of course, ARexx is an interpreted language, and probably one of the most powerful



given the amount of support it now has from assorted appli cations software.

NOMINATIONS

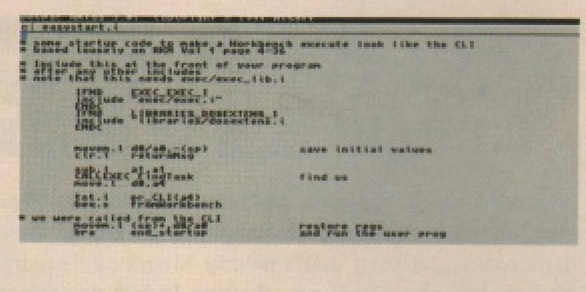
1. **ARexx**
2. **Easy Amos**
3. **Hisoft Pascal**

COMPILERS

For real speed you need a compiled language. Hisoft seem to have the machine code end sewn up with *Devpac 3* although some people are still using *Argasm*. But that's not the end of it. An awful lot of programming is still done in C (as was the original AmigaDOS) so *SASC* has got to be a contender. And then there's *Aztec* and *Manx* which also seem fairly popular.

NOMINATIONS

1. **SAS/Lattice C**
2. **Devpac**
3. **Aztec C**



UTILITIES

It's the little bits and pieces of code, the utilities, that help us keep our sanity when all the applications go mad or won't talk to each other. Utilities are the housekeeping tools of a computer system and shouldn't be ignored unless you want to be bogged down in dirty laundry.

DISK BACKUPS

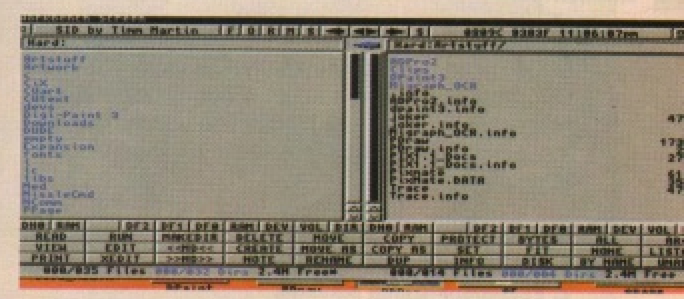
There is probably no more important utility to an Amiga owner than his disk backup utility (well, assuming you have a Hard Drive that is). The most famous of these is *Quarterback*, now in its fifth incarnation but there are a few others worth taking a look at like Lake Forest Logic's *Doubleback* and the recent arrival *Mr. Backup*.

NOMINATIONS

1. **Quarterback**
2. **Mr. Backup**
3. **DoubleBack**

FILE UTILITIES

A file utility can be many things. It could be, for example, *Directory Opus* or even the new *SID2*, which help keep directories tidy and enable cross disk copying without having to learn all the magic spells of the CLI. On the other hand it might be a cruncher which lets you get as much as is inhu-



manly possible on a disk, like *Powerpacker*. It could even be a recognised and well thought of utility that saves files and disks from certain destruction (or at least read/write errors) in the shape of *Quarterback Tools* or *The Disk Mechanic*.

NOMINATIONS

1. **Quarterback Tools**
2. **Sid2**
3. **Powerpacker 4.0**

BUSINESS

Although probably only a handful of people actually use their Amiga as a business machine there are still a great number of business applications available for it and many of them sell very well to the hobbyist as well as the professional user

FINANCE

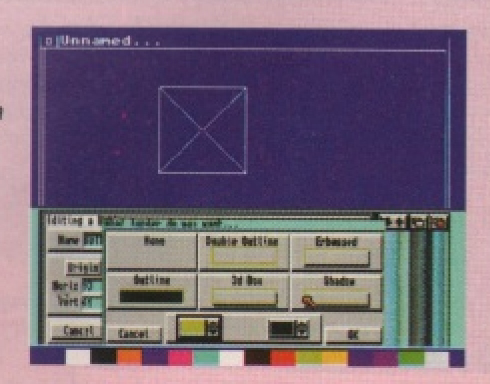
Finance packages abound on the PC but there are just about as many available on the Amiga as on the Macintosh, and many of these have features

MULTIMEDIA

As this is still a relatively unsettled area of computing there is only one category for multimedia, which will include authoring systems such as *Showmaker* and *Scala* as well as the more presentation or demonstration based packages like *Presentation Manager* and *The Director 2*. There are also the more interactive creation programs to consider like the excellent *Hyperbook* and *CanDo*.

NOMINATIONS

1. **Scala**
2. **Showmaker**
3. **Hyperbook**



AWARD WINNERS

which can only be found on Commodore's machine. On the Accounts side of things what could compete with *Personal Finance Manager* with its excellent account searching facilities and its pretty graphs? Well, there is *Digita Home*

Worksheets/Home/Home Budget.PCF

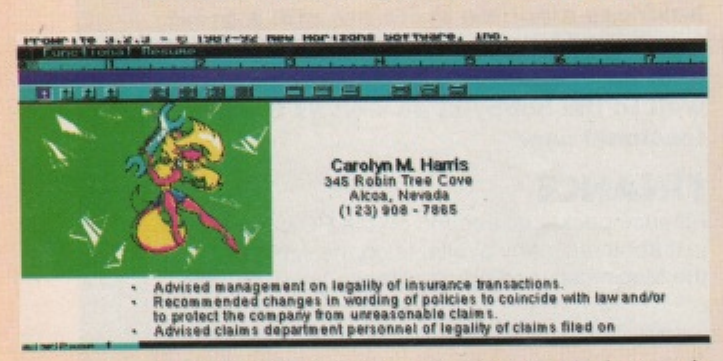
		Projected	Jan	Feb	Mar
Home Budget					
Housing Costs					
	Rent (or mortgage)	750.00	750.00	750.00	750.00
	Electricity	13.00	13.75	18.00	16.00
	Gas	13.00	14.25	13.00	13.00
	Water	25.00	23.25	22.00	26.00
Credit					
	Credit Cards	20.00	18.75	17.00	16.50
	Loan	125.00	125.00	125.00	125.00
Car					
	Payments	400.00	400.00	400.00	400.00
	Insurance	100.00	100.00	100.00	100.00
	Gas	25.00	32.50	26.00	24.00
	Maintanance	10.00	10.00	10.00	10.00
	Repairs	35.00	35.00	35.00	35.00
Home					
	Furniture	250.00	250.00	250.00	250.00
	Dishes/Silverware	15.00	15.00	15.00	15.00

Accounts. On the Spreadsheet side of things there is the dated but still noteworthy *Superplan*. The old favourite *Advantage* has since been replaced by *Professional Calc*, with it's fairly advanced graphics, easy to use interface and impressive ARexx support

NOMINATIONS
1. Professional Calc
2. Personal Finance Manager
3. Digita Home Accounts

WORD PROCESSORS

Probably the most prolific area of software production is in word processors. There are certainly plenty to choose from on the Amiga. The more traditional might go for *Word Perfect* which, although impressive, hasn't had an update in a while. For raw power there is not much to best Arnor's *Protext*, which has been going about as long as the Amiga. It is stunningly fast and contains all the text handling features you could probably want, but it is not the most Amiga-friendly program, and probably doesn't adhere to more than abo ut three items in the CBM style guide. One word-pro with a great following is *ProWrite*, which is very similar to *Microsoft Word*. Along similar lines, and also with



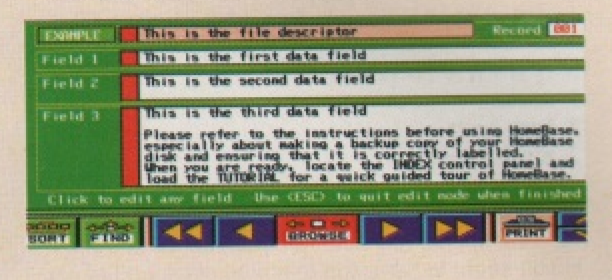
the ability to handle imported graphics is the excellent *Wordworth*. Along simpler lines *Quickwrite* and *Transwrite* are cheap and fast. If you are considering doing any programming then *Cygnus Ed* from ASDG is probably the only text editor you are ever likely to need

NOMINATIONS
1. Cygnus Ed
2. Wordworth
3. ProWrite

DATABASES

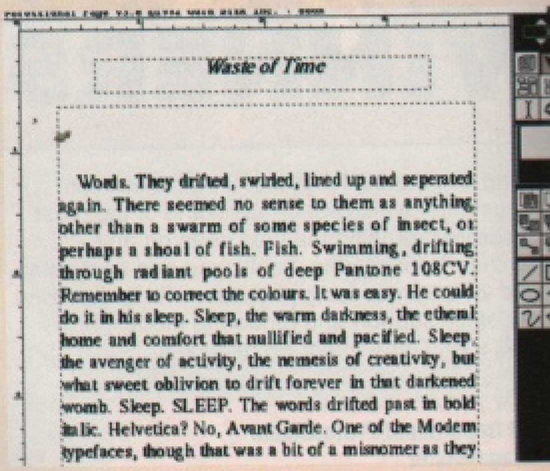
Where would video rental shops be without them? In fact, where would my tape collection be without them? A database is maybe not an essential item in the make-up of a good system, but it is certainly a very useful one. Kuma's *K-data* is very serviceable, as is *Prodata* from Arnor. On the simpler side both *Homebase* and *Superbase Personal* have most of the features you'll ever need unless you are starting a spy ring. Probably the best known database on the Amiga, and the one with the most features, is *Superbase Professional 4*, which made a name for Precision software.

NOMINATIONS
1. Superbase Professional
2. Prodata
3. Homebase



DESKTOP PUBLISHING

This is without doubt the most fiercely contested and most argued over area of Amiga software. There are only a few protagonists, but the leading two are so close that there's not really a great deal in it. *Professional Page 3* has the upper hand in terms of accuracy and reliability, not to mention the supreme flexibility of its output. Professional magazines could, and have been, put together using predecessors of this software. *Pagestream* is claimed by some to have a more flexible environ-



Waste of Time

Words. They drifted, swirled, lined up and seperated again. There seemed no sense to them as anything other than a swarm of some species of insect, or perhaps a shoal of fish. Fish. Swimming, drifting through radiant pools of deep Pantone 108CV. Remember to correct the colours. It was easy. He could do it in his sleep. Sleep, the warm darkness, the etheral home and comfort that nullified and pacified. Sleep, the avenger of activity, the nemesis of creativity, but what sweet oblivion to drift forever in that darkened womb. Sleep. SLEEP. The words drifted past in bold italic. Helvetica? No, Avant Garde. One of the Modern typefaces, though that was a bit of a misnomer as they

ment. It certainly has wider font support and a great deal of bitmap graphic support. Its failings are in poor accuracy of output. *Saxon Publisher* is a bit of an also ran. Don't forget the low end though, where *PagesetterII* is a real bargain at around £40, offering almost the same facilities as *Professional Page*.

NOMINATIONS
1. Professional Page
2. Pagestream
3. PagesetterII

GAMES

There's more games software available for the Amiga than any other home computer, with literally thousands of titles having been released over the last six years. Of course, along with every Monkey Island, Speedball II or Kick Off II that made it to the software shelves of your local dealer, there have been some absolute howlers. However, we'll leave the duff stuff until some other time. Right now, we're concerned with the creme de la creme of games software, the classic releases which have born the test of time, and which deserve repeated playing.

SHOOT 'EM UPS

From the very first appearance of *Space Invaders* in the late 70s, the shoot 'em up has reigned supreme. Other titles quickly followed, such as *Phoenix, Galaxians, Gorf, Scramble* and the super-fast *Defender* (with System 3 currently working on *Defender 3* for the Amiga). Today, we're completely spoilt for choice when it comes to a good ol' blast, with titles like *Z-Out, R-Type 2, Turrican 2* and the vertically-scrolling *SWIV* vying for our attention and cash. The very best example of the genre, however, has only just been released. *Project X* is, without doubt, the finest blaster in existence on the Amiga featuring arcade-quality graphics and a difficulty level that will keep you coming back for more – you'll have to as it's so damn hard that few people can claim to have finished the game. With no level codes or cheats, it's certainly a challenge, but an enjoyable one nevertheless.

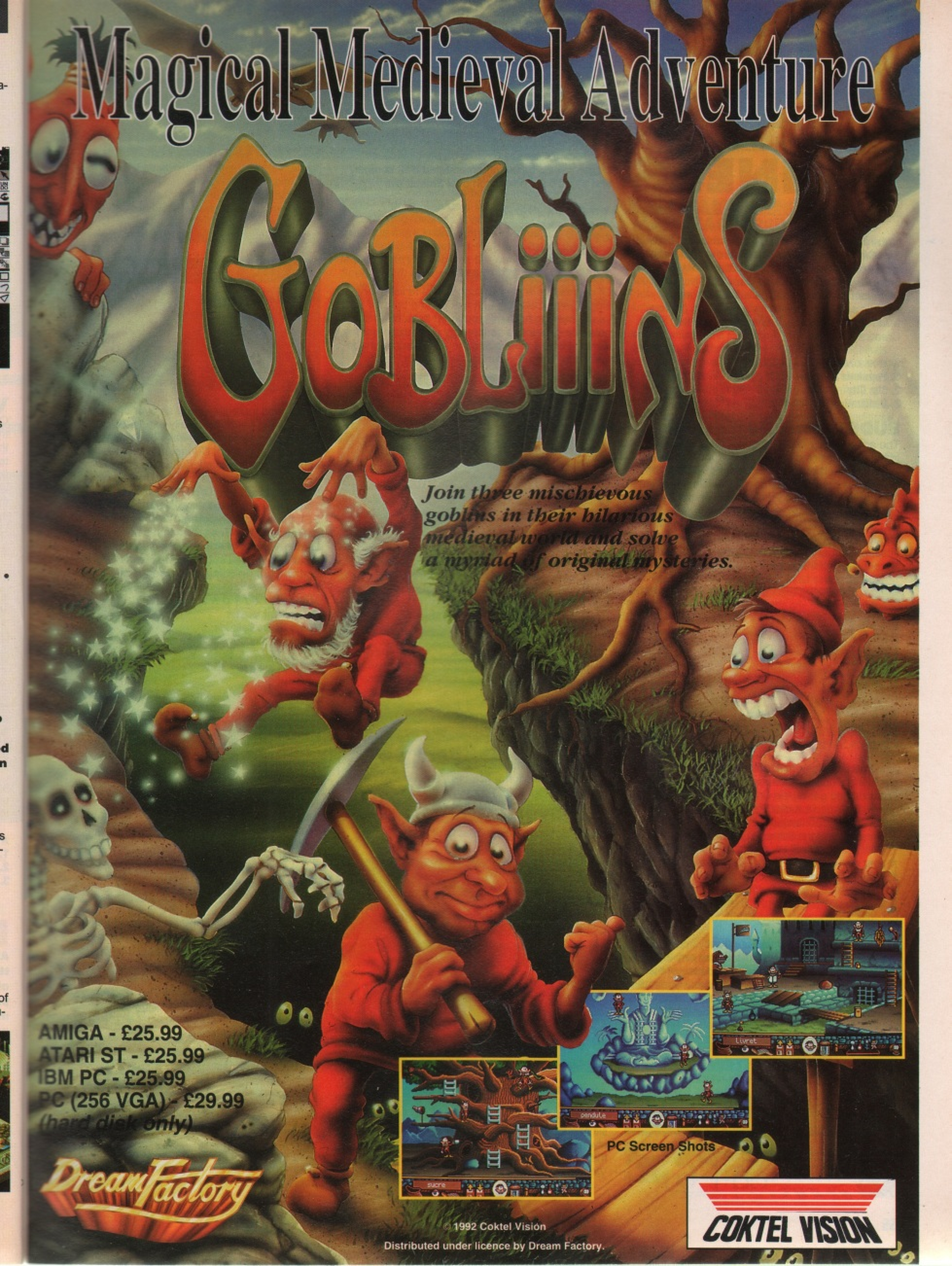


NOMINATIONS
1. Project X
2. SWIV
3. Z-Out

GOD SIMS

The wrath and power of the Almighty can now be yours! That's the claim made by the ever-popular God sim whereby the player controls the destiny of a city, continent or even entire planet. Made popu-





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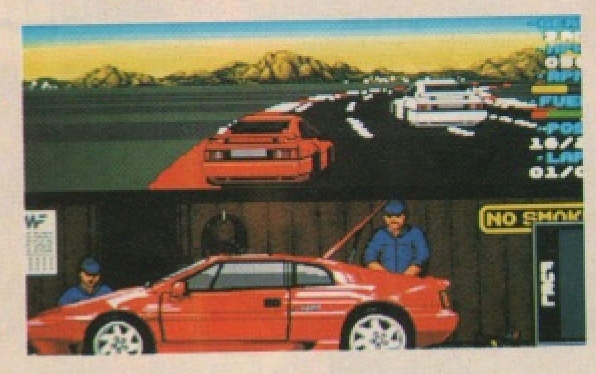
AWARD WINNERS

lar by the ground-breaking *Populous* and Maxis' *Sim City* games, the genre has proved an increasingly popular one over the last couple of years. From Gremlin's *Utopia* and Sensible's *Megalomania* to Microprose's *Civilization* and Bullfrog's *Powermonger*, it's possible to guide a world through virtually any epoch since the Creation.

NOMINATIONS
1. Populous 2
2. Sim City
3. Civilization

BUDGET GAMES

The advent of a sizeable budget market has meant many old classics can now be snapped up for a fraction of their original cost. Indeed, such is the turnover of games these days, that titles less than 8 months old often find themselves on the budget circuit if they failed to perform particularly well. If you want to build up a games collection on the cheap, budget labels possess a rich variety of titles, a number of which put current games to shame. But where to start? May we humbly sug-

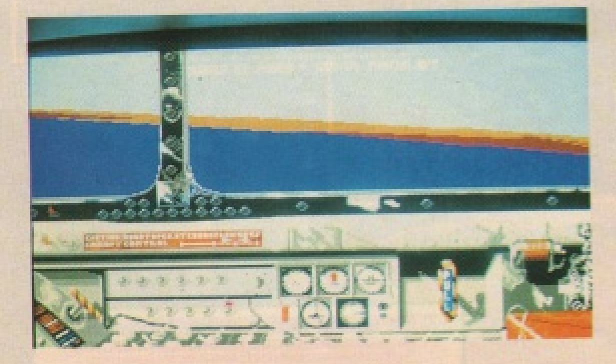


gest you pick up copies of the ever-so-cute platformer *Rainbow Islands*, Gremlin's acclaimed *Lotus* driving game, the original *Populous* 'God' game and Anco's *Kick Off* for your first purchases? Other contenders include *Z-Out*, the amazing *Turrican II*, and the Bitmaps' *Cadaver*.

NOMINATIONS
1. Rainbow Islands
2. Lotus
3. Populous

FLIGHT SIMS

The avid flight sim enthusiast is really spoilt for choice. And one company, more than any other, has done the most to advance the cause of the Amiga flight sim. Microprose are without doubt the premier exponents of the genre and possess three of the best in the shape of *F15II, F19* and *Gunship*.

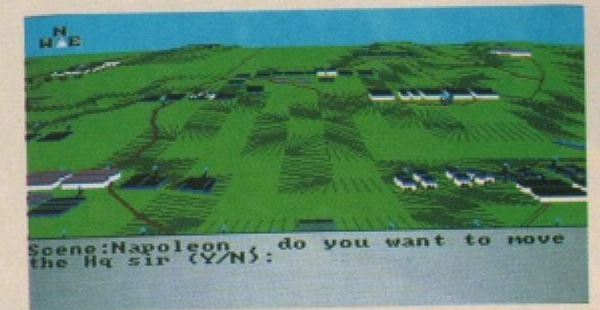


That's not to say there's nothing else out there worth forking out for. Core's arcade-influenced *Thunderhawk* was a more than decent effort, with Mirrorsoft's *Flight of the Intruder* showing how a licensed product should be handled. Two of the best recent releases have to be Mindscape's *Megafortress*, based on an updated B52 bomber, and Virgin's incredibly complex Shuttle sim.

NOMINATIONS
1. F15 II
2. F19
3. Thunderhawk

MISCELLANEOUS

Of course, there isn't enough space to list every single game category that has sprung up over the years. Missing from this round-up have been such noteable categories as strategy and puzzle games, war and board games and the ubiquitous management sim. Ubisoft's *Perfect General*, Domark's



Trivial Pursuit, Battle Chess, Tetris, and Peter Turcan's *Waterloo* could all find a home here, but placed together they look slightly at odds with each other. This is a general 'anything goes' category which will probably attract the most wide-ranging number of votes. Ours are just particular favourites, but doubtless you'll have different ideas.

NOMINATIONS
1. Tetris
2. Waterloo
3. Supremacy

RACING GAMES

There's nothing to get the adrenaline pumping like a good race game. Most of us are never likely to get behind the wheel of a Formula One car or a 1250cc high-performance bike, so these are an excellent alternative. Programmer Geoff Crammond is a particular ace at this sort of game, and has written both *Grand Prix* and *Stunt Car Racer* for Microprose, whilst Gremlin have also



entered the fray with their *Lotus* games. Finally, let's not forget Core's recently-released *Jaguar XJ220* licence, Lankhor's *Vroom*, and that old classic *Super Hang-On*. Of course, race games don't always have to be viewed from within the car, as is the case with Gremlin's *Supercars* games and Virgin's *Super Off-Road Racer*.

NOMINATIONS
1. Grand Prix
2. Lotus
3. Jaguar XJ220

ROLE-PLAYING GAMES

Some have predicted the RPG as the saviour of the Amiga games industry, as arcade players desert to the consoles en masse. We certainly cannot imagine too many RPGs appearing on the Megadrive or the SNES, that's for sure. Choosing three RPGs for our final nominations, however,

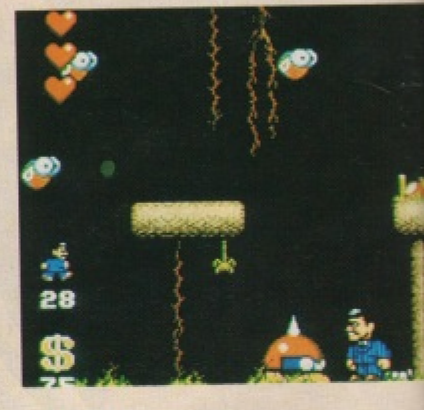


has proved incredibly hard, as over the last couple of years the genre has really expanded and some amazingly-complex titles have been released. Even today, though, *Dungeon Master* is still an unbeatable mix of dank dungeons to explore and slime-ridden creatures to slay. Then there's the highly polished *Eye Of The Beholder 1* and *2*, Teque's *Shadowlands*, the *Dragonlance* saga from SSI, the recently-imported *Wizardry* series of games from Sir-Tech. And that's not even mentioning *Might & Magic 2* (much superior to its recently released sequel), *The Bard's Tale* trilogy, and Origin's on-going *Ultima* series of games.

NOMINATIONS
1. Dungeon Master
2. Eye of the Beholder 2
3. Bane of the Cosmic Forge

PLATFORM GAMES

Whether these star a bionic fish or an ooky, kooky member of *The Addams Family*, there's always plenty of fun to be had with a decent platform game. As the influence of Nintendo and Sega becomes more apparent, game designers are starting to add larger levels and



cuter sprites to the genre, creating wave after wave of classics. Ocean's *The Addams Family* and *Parasol Stars* are two which show this, but let's not forget Millennium's *Robocod* and Titus's *The Blues Brothers*. Oh, and how about *Rainbow Islands, Rodland, New Zealand Story, Fire And Ice, Flood, Myth*, and *Elf*. The list is seemingly endless...

NOMINATIONS
1. The Addams Family
2. Rainbow Islands
3. Robocod

ADVENTURES

For years, Infocom led the way in adventure games, but a massive list of rivals has now sprung up to claim their crown. Sierra, Lucasfilm and Delphine have all appeared to take what used to be a very boring text-only format to new heights. In addition, as the adventure genre once more

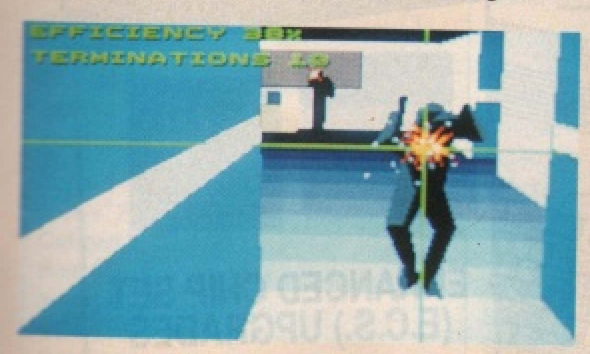


steamrollers in popularity, so more companies jump on the bandwagon – as witnessed by Gremlin's *Plan 9* and Ocean's *Hook*. Recent hits have included *Monkey Island II*, and the aforementioned *Hook* licence, whilst past hits include *Loom*, *Indiana Jones And The Last Crusade*, and the *Leisure Suit Larry* games. The genre even took a massive step in a new direction with the advent of Delphine's graphically-stunning *Another World* – but where will it go from here?

NOMINATIONS
1. Monkey Island II
2. Indiana Jones And The Last Crusade
3. Another World

LICENCES

These have been big business for the last two or more years, and are still growing in popularity and diversity. Gone are the days when the likes of Eastenders and The Archers were snapped up for computer game conversions, instead we get real classics such as *Plan 9 From Outer Space* and *Omar Sharif Bridge*! Seriously, every time a large-budget film is released, it's odds-on that a game

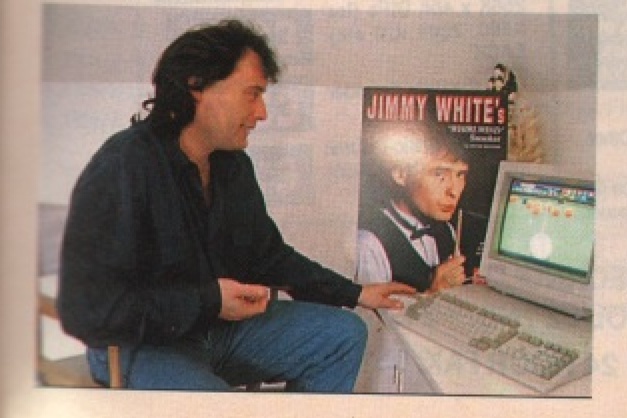


won't be far behind. Hook, Terminator II, The Olympics, The Addams Family, Jimmy White, The Godfather, Count Duckula, The Simpsons, WWF, and Robocop III are just a handful of the exhaustive list – which is bound to grow ever larger. However, it has to be said that very few licences actually live up to the reputation offered by the film, book, or TV series they are based on. Luckily, we are surprised every now and then, though...

NOMINATIONS
1. The Addams Family
2. Jimmy White's Whirlwind Snooker
3. Robocop III

SPORTS SIMS

Aside from kicking a ball about every Thursday at Regent Park, very few of the CU Crew ever engage in any athletic pastimes. Thus, games



such as *Kick Off II* and *California Games* are often the nearest we come to exercise. It's also fortunate, then, that there are so many of these sport games available. Whether your Snooker loopy with Virgin's Jimmy White licence, or over the moon after scoring a hat trick in *Kick Off II, Sensible Soccer*, or *Striker*, there's plenty of armchair athletics games available. In addition, virtually every sport under the sun has been pixelised, including Rugby, Cricket, Squash, Tennis, and Golf – and the waggling involved in some of the Olympic-style games is more knackering than actually going out and running 400 metres! And don't forget the many futuresports which grace the Amiga, including *Speedball II, Botics, Future Basketball*, and *Projectile*. So, whether you're a binary Bobby Moore or a pixelated Pole Position racer, get ready for some serious voting...

NOMINATIONS
1. Kick Off II
2. Jimmy White's Whirlwind Snooker
3. Speedball II

BEAT 'EM UPS

Would-be Bruce Lees love these games as they allow them to take on countless big'n'beefy opponents using whatever weapons come to hand.



However, they're not all street fighting games, though, and the honorable martial arts are similarly well catered for. Games such as *IK+* have kept players glued to their computers as they try to reach that elusive black belt, whilst the *Last Ninja* trilogy add a little arcade/adventuring to beef the proceedings up a little. And if one martial art isn't enough for you, games like *Budokan* and *Oriental Games* let you practice one of the many skills. Mind you, if you just fancy smacking a few heads, there's always *The First Samurai, Final Fight, Golden Axe, Panzer Kick Boxing*, and *Final Blow* to keep you going...

NOMINATIONS
1. IK+
2. The First Samurai
3. Panzer Kick Boxing

BEST SOFTWARE HOUSE

This is a jam-packed category, the result of so many excellent software houses actively supporting the Amiga. Could it be Electronic Arts for the likes of *DPaint IV* and *John Madden's*? Ontario-based Gold Disk have also been at the forefront of Amiga development, too, with the likes of *ProPage, ProDraw, MovieSetter* and *ProCalc* – and their customer support is generally regarded to be as good as their products. New Horizons are roughly three years-old and have already aided countless disk users with *Quarterback* and its supplementary package, *Quarterback Tools*, and they also released Dos-2-Dos – one of the most widely-used transfer programs ever. UK old boys, Arnor, have emerged from a dying Amstrad market to release *ProText* – probably the most famous Word Processor ever – and *ProData*, an equally hot database. In addition, on the games front, it's worth considering U.S. Gold, Ocean, Microprose, Core Design, Gremlin, and Team 17.

NOMINATIONS
1. Gold Disk
2. Electronic Arts
3. Ocean
4. Arnor
5. New Horizons

BEST HARDWARE MANUFACTURER

There's plenty of scope for choice here. To start with an obvious one there's always Commodore who gave us the A500+ and then took it away again. Amiga Centre Scotland must also deserve a mention for the Harlequin Plus, still the most advanced graphics card on the Amiga.

GVP have produced some impressive hardware, not least of which is the HD-8 hard drive and its many derivatives. For sheer volume, Progressive Peripherals are doing quite well with their latest range of accelerators and graphics hardware. Microdeal have shifted a lot of music hardware in their time, too, and similarly, Rombo have been more than a bit successful with Vidi. *Canon* quite obviously deserve a mention for their printers, even if they weren't Amiga specific.

NOMINATIONS
1. Progressive Peripherals and Software
2. GVP
3. Canon

BEST DISTRIBUTORS

The products you buy often need good support from the manufacturer or distributor. Some of them are good at it and some are notoriously bad. HB Marketing along with Centresoft are probably the most established distributors of Amiga wares. Precision made a name for themselves with basically just the one product, but it was well supported.

In more recent times, the emphasis has shifted a little towards chains and mail order houses such as Silica and Diamond.

NOMINATIONS
1. HB Marketing
2. Diamond
3. Centresoft

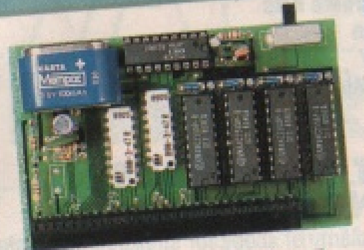
HALL OF FAME

This is something of a special category. It is awarded for constant excellence. Anyone can be a one-hit wonder – take Chesney Hawkes, for instance – but to maintain class whilst attempting to push the Amiga further than it has been before takes real determination and skill. For instance, whilst software companies constantly state that their game is the 'best ever', it's the like of Microprose and Electronic Arts which keep producing a steady stream of quality software. In addition, Ocean have risen above such shambolic efforts as *Wild Wheels* and *Terminator II* to bring us such classics as *The Addams Family, Robocop III, Parasol Stars*, and *Epic*.

Similarly, 'serious' applications require genuine innovation and technical expertise from the companies responsible, and this is then reflected in their ease-of-use and expandability. Thus, the likes of HiSoft, Gold Disk and – once again – Electronic Arts for their *DPaint* updates are also front-runners for an award here. And let's not forget industry stalwarts Microdeal, and their new contempories: Amiga Centre Scotland, NewTek, and Progressive Peripherals. Ex-Commodore MD, Steve Franklin, also deserves a mention as he is the man who effectively got the Amiga off the ground, with sales exceeding 1.2 million units in this country.

NOMINATIONS
1. Steve Franklin
2. Electronic Arts
3. Gold Disk

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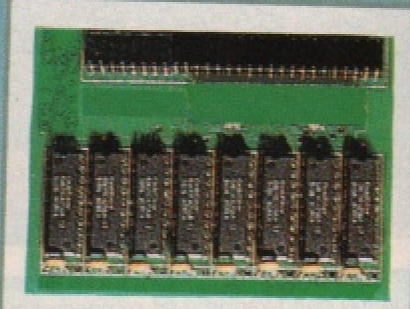
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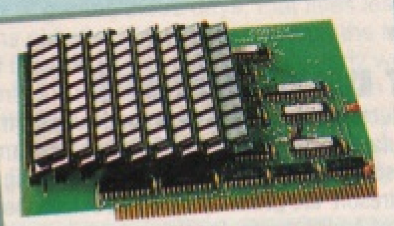
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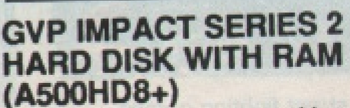
GVP IMPACT SERIES 2 HARD DISK WITH RAM (A500HD8+)

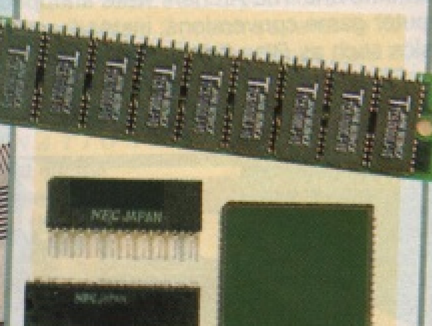
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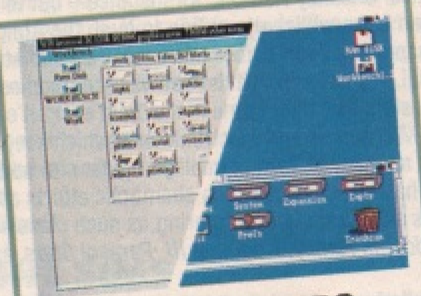


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VOTING FORM You've read what we think are the best software releases available for the Amiga over the last few pages, and you're now probably itching to have your say. Listed here are all the different categories. If you disagree with a particular nomination, merely ignore them and write your own entry in the space provided.

THE FAT AGNUS AWARDS

£2000 SOFTWARE BONANZA

To help spare you on to register your vote, we've got £2,000-worth of free software to giveaway. All entries will be put into a draw, the winner receiving £500 of his/her own choice. There'll also be 15 runner-up prizes of £100 each.

COMPOSITORS
- KCS 3.5 ☐
- Bars & Pipes ☐
- Super Jam ☐
- Other.............................
- Comment:

SAMPLING SOFTWARE
- Studio 16 ☐
- Audio Engineer Plus ☐
- AMAS2 ☐
- Other.............................
- Comment:

ANIMATION PACKAGE
- Deluxe Paint IV ☐
- Vista Pro ☐
- Moviesetter ☐
- Other.............................
- Comment:

RAYTRACING
- Calligari II ☐
- Real 3D ☐
- Imagine ☐
- Other.............................
- Comment:

PAINT PACKAGE
- Deluxe Paint ☐
- Fantavision ☐
- My Paint ☐
- Other.............................
- Comment:

STRUCTURED ART PACKAGE
- Professional Draw ☐
- Design Works ☐
- Expert Draw ☐
- Other.............................
- Comment:

IMAGE PROCESSOR
- Art Department Pro ☐
- Imagemaster ☐
- Pixmate ☐
- Other.............................
- Comment:

VIDEO
- Scala 500 ☐
- TV Text ☐
- Video Studio ☐
- Other.............................
- Comment:

INTERPRETER
- ARexx ☐
- Easy AMOS ☐
- HiSoft Pascal ☐
- Other.............................
- Comment:

COMPILERS
- SAS/Lattice C ☐
- Devpac ☐
- Aztec C ☐
- Other.............................
- Comment:

MULTIMEDIA
- Scala ☐
- Showmaker ☐
- Hyperbook ☐
- Other.............................
- Comment:

DISK BACKUPS
- Quarterback ☐
- Mr. Backup ☐
- DoubleBack ☐
- Other.............................
- Comment:

FILE UTILITIES
- Quarterback Tools ☐
- Sid2 ☐
- Powerpacker 4.0 ☐
- Other.............................
- Comment:

FINANCE
- Professional Calc ☐
- Personal Finance Manager ☐
- Digita Home Accounts ☐
- Other.............................
- Comment:

WORD PROCESSORS
- Cygnus Ed ☐
- Wordworth ☐
- Prowrite ☐
- Other.............................
- Comment:

DATABASES
- Superbase Pro ☐
- Prodata ☐
- Homebase ☐
- Other.............................
- Comment:

DESKTOP PUBLISHING
- Professional Page ☐
- Pagestream ☐
- PagesetterII ☐
- Other.............................
- Comment:

SHOOT 'EM UPS
- Project X ☐
- SWIV ☐
- Z-Out ☐
- Other.............................
- Comment:

GOD SIMS
- Populous 2 ☐
- Sim City ☐
- Civilization ☐
- Other.............................
- Comment:

BUDGET GAMES
- Rainbow Islands ☐
- Lotus ☐
- Populous ☐
- Other.............................
- Comment:

FLIGHT SIMS
- F15 II ☐
- F19 ☐
- Thunderhawk ☐
- Other.............................
- Comment:

MICELLANEOUS
- Tetris ☐
- Waterloo ☐
- Supremacy ☐
- Other.............................
- Comment:

RACING GAMES
- Grand Prix ☐
- Lotus ☐
- Jaguar XJ220 ☐
- Other.............................
- Comment:

ROLE-PLAYING
- Dungeon Master ☐
- Eye of the Beholder 2 ☐
- Bane of the Cosmic Forge ☐
- Other.............................
- Comment:

PLATFORM GAMES
- The Addams Family ☐
- Rainbow Islands ☐
- Robocod ☐
- Other.............................
- Comment:

ADVENTURES
- Monkey Island 2 ☐
- Leisure Suit Larry ☐
- Another World ☐
- Other.............................
- Comment:

LICENCES
- The Addams Family ☐
- Jimmy White's Snooker ☐
- Robocop III ☐
- Other.............................
- Comment:

BEAT 'EM UPS
- IK+ ☐
- The First Samurai ☐
- Panzer Kick Boxing ☐
- Other.............................
- Comment:

BEST SOFTWARE HOUSE
- Gold Disk ☐
- Electronic Arts ☐
- Ocean ☐
- Amor ☐
- New Hoizons ☐
- Other.............................
- Comment:

BEST HARDWARE MANUFACTURER
- Progressive Peripherals ☐
- GVP ☐
- Canon ☐
- Other.............................
- Comment:

BEST DISTRIBUTOR
- HB Marketing ☐
- Diamond ☐
- Centresoft ☐
- Other.............................
- Comment:

HALL OF FAME
- Steve Franklin ☐
- Electronic Arts ☐
- Gold Disk ☐
- Other.............................
- Comment:

HOW TO ENTER Once you've filled in the form, either tear the page out or photocopy it, and send it to: FAT AGNUS AWARDS, CU AMIGA, EMAP Images, 30-32 Farringdon Lane, Farringdon, EC1R 3AU. Closing date for entries is October 10th, 1992.

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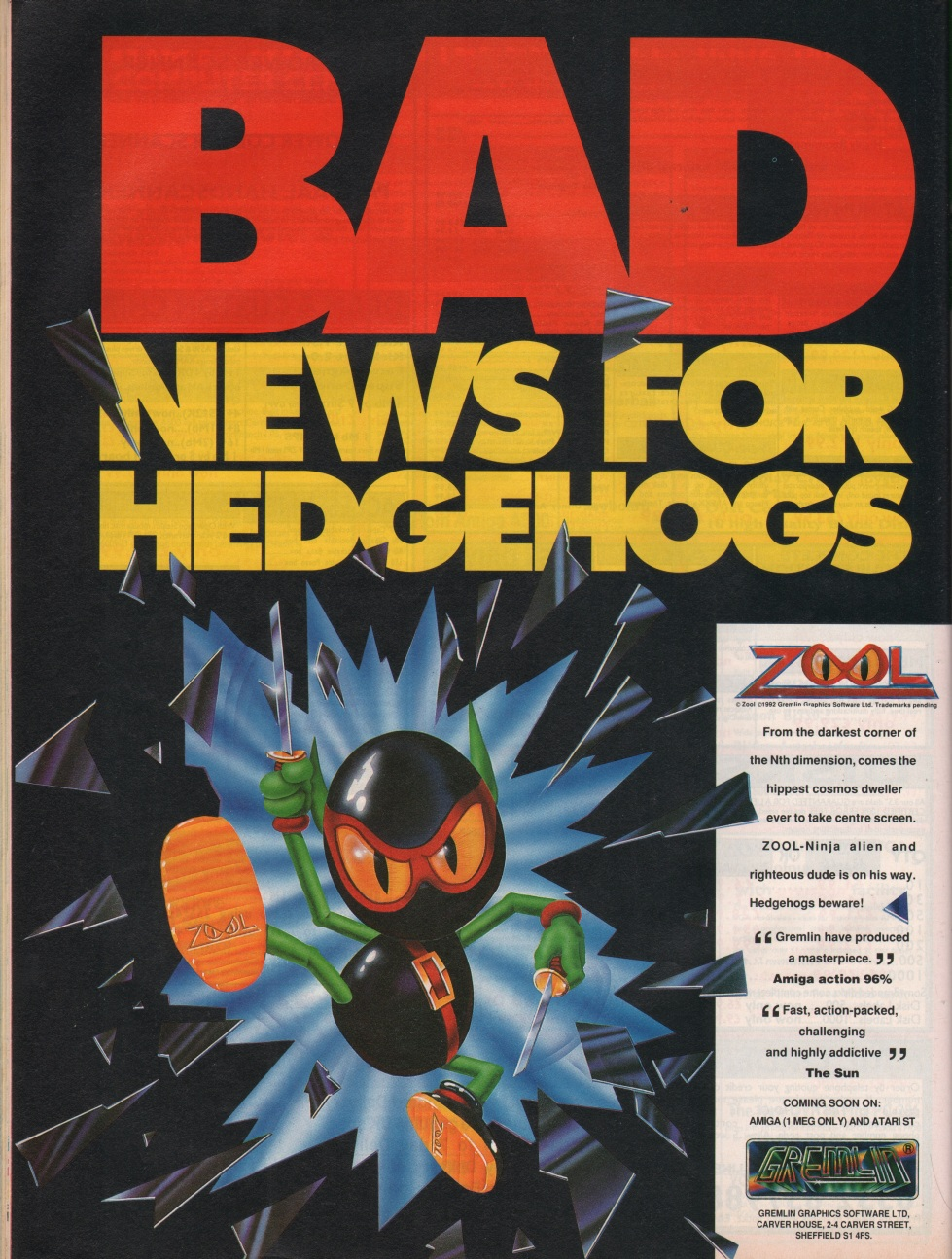
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BAD
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From the darkest corner of
the Nth dimension, comes the
hippest cosmos dweller
ever to take centre screen.
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righteous dude is on his way.
Hedgehogs beware!
" Gremlin have produced
a masterpiece. "
Amiga action 96%
" Fast, action-packed,
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and highly addictive "
The Sun
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THE HISTORY of COMPUTERS

We all take the Amiga's amazing graphical and processing capabilities for granted, but what came before? Christina Erskine takes the first in a three-part stroll down computer memory lane...

PART 1

IN THE BEGINNING...

Before 1980, if you owned a computer you would have built it yourself – and probably thought of yourself as an electronics whizz, not a computer enthusiast. Your home computer would have taken days to assemble, with the fevered builder hunched over a hot soldering iron to do so – and you certainly wouldn't be thinking of playing games with it. For that there were dedicated Atari consoles from the States.

And it was in the US that people were buying Apple IIs in hundreds of thousands, and the new Atari 400/800 machines. While the Ataris, like their VCS predecessors, were very much games machines, the Apple II machines were used for serious applications in addition to games because American computer users tended to be older, with more money to spend on commercial software.

It is more than likely that we in the UK would have gone on to follow the American market slavishly, and rely solely on American imports, were it not for one company – Sinclair Research. The ZX80, which sold to the aforementioned electronics enthusiasts, and the follow-up, the ZX81, gave the UK a distinct 'techie' flavour of its own.

By 1980, it was clear that 'off-the-peg' computers would sell into the home sooner rather than later. Already some of the burning issues of the day bore an uncanny resemblance to debates which have carried on into the nineties. For example, in August 1980, an article in Personal Computer World magazine discussed three issues: 1. 'Does existing legislation cover electronic media'; 2. 'Is digitised pornography on a disk unlawful'; 3. 'What is the correct intellectual property to afford to software to protect it from bootleggers and pirates?'

BETTER PROCESSORS

By 1981, Motorola was promoting their new 68000 processor as a chip for the 80s. The Z80 and 6502 were already well established and IBM were introducing their first 8088-based PC. What has dramatically changed computers into the colourful, fast, sophisticated machines of today are the advances made in terms of graphic processing, and the introduction of dedicated graphics and sound chips, such as the early examples in the Commodore 64 and those of the Amiga today. Faster and larger data storage systems have led to much bigger, multi-level programs. Devices can now be made much smaller – and come with slimline monitors, disk drives which are tucked into the keyboard, and the appearance of powerful laptop PCs. And, finally, memory chip prices have tumbled, so that the technology which was available in theory eight or nine years ago is now affordable and mass-produced.

More evolution than revolution...

1980



Good old Sir Clive's ZX80 with its stunning 1K of RAM. Notice the painted 'cooling' slots to the rear of the unit.

The Sinclair ZX80 – first shown to the public in February – was the first sub-£100 'computer'. Available for £79.95 in kit form and £99.95 ready-built, Clive Sinclair's brainchild was basically a flat slab of white plastic – although it did sport some rather odd 'cooling vents' along the back of the machine which were actually painted lines and served no actual prupose! It had a touch-sensitive keyboard,1K of RAM, an NEC 780-1 processor, which was a 'copy' of the Z80, and built-in Sinclair Basic. Graphics? Not produced until 1981. Sound? Forget it. Software? You had to write it yourself – indeed, Doing It Yourself was the whole idea of the ZX80.

Another kit-form computer launched that year was the Acorn Atom, and cost £125 as a kit and £150 ready-built. The Atom claimed to be 3-5 times faster than Apple Integer BASIC 'and it has the unique feature of including an assembler in the interpreter.' But, more importantly, the Acorn Atom boasted graphics capabilities, and featured a screen with a high resolution of 256 x 192, five graphics modes, and 192 graphics characters.

Acorn suffered from terrible production problems with the Atom, though, so much so that one retailer, described in Personal Computer World as the 'incorrigible' manager of Lasky's Microdigital chain, announced to all and sundry that he would not include the Atom in his next catalogue because he was too uncertain of receiving any stock from Acorn. The manager's name was Bruce Everiss – and the computer industry was to hear quite a bit more from him.

Atari, however, had no UK division in those days; instead the Atari 400/800 machines were imported by Ingersoll, at initial prices of £395 for the 16K model 400 and £695 for the 48K 800.

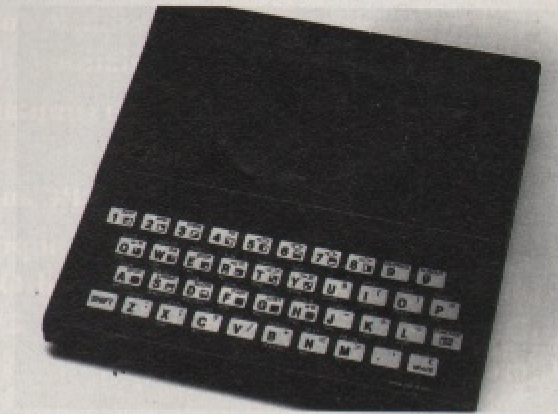
1981

The Commodore Vic 20 was shown publicly for the first time at the January Consumer Electronics Show (CES) in Las Vegas, and was launched in the UK in June of the same year. It wasn't the first colour computer, but it was the first to sell for under $300 – albeit only just. The Vic 20 had 5K RAM, a full-size keyboard (which was later used in the Commodore 64), and its own custom chip called the VIC (Video Interface Chip). It went on to sell over two million units worldwide over the next three years.

After a rather lengthy wait, the first UK-produced Vic 20 game appeared in September. Published by Mr Micro for the (then) extortionate price of £16, it was entitled *Gold Rush*, and the first person to complete it was promised a bag of 22-carat gold.

The Sinclair ZX80 also got its first games at this time, and Clive Sinclair was reportedly 'tickled pink' that programmers had managed to produce graphics on the humble machine. The program was *Space Intruders* and readers of Tim Hartnell's book 'Making the Most of Your ZX80' could either type it in, or order a ready-made tape from Ken MacDonald of Solihull.

In March, the Sinclair ZX81 was announced by the newly-rechristened Sinclair Research, and given an ecstatic welcome by computer enthusiasts. Still sporting a meagre 1K RAM, and still using the flat touch-sensitive keyboard, it was nevertheless a great leap beyond the ZX80 – and,



Following on from the ZX80, the logical sequel – the ZX81 – raised its head – boasting possible expansion ports, too.

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THE HISTORY of COMPUTERS

furthermore, less expensive at £49.95 in kit form and £69.95 ready built. It also had a much lower chip count, thanks to its own custom chip designed by Sinclair and built by Ferranti; it sported a much-improved screen display; and it could produce graphics and perform floating point arithmetic – in short, it was genuinely useful as a computer rather than the electronic assembly exercise which is how buyers tended to treat the ZX80.

ENTER IBM

The more the market grew, the more it became just a matter of time before the mighty conglomerate IBM launched its microcomputer. The PC may have been behind when compared to companies like Apple and Commodore who were forging ahead in the new industry, but its solid, unexciting specification – Intel's 8088 running at 4.77MHz, a single disk drive,16k expandable RAM – and an equally solid price of $3000, plus the IBM name ensured plenty of corporate sales.

1981 also saw the first of the truly commercial software houses – ie. those with full-time staff, proper offices, and advertising budgets. Psion, Bug Byte, and Quicksilva led the way out of the back bedrooms. The latter was started by Nick Lambert and John Hollis, who later took on a certain Rod Cousens (now at Acclaim) to look after the company finances, and indeed, run the company. Quicksilva produced the first ever Spectrum game, *Space Intruders* at £5.95, in 1982. Bug Byte spin-off companies such as Software Projects and Imagine went on to achieve success of their own (see 1983). Eventually both Bug Byte and Quicksilva went onto become labels of Grandslam Entertainments, while Psion went on to evolve quite differently.



When big boys IBM joined the fray, people finally started to take the 'faddy' computer industry seriously.

WHAT TO PAY FOR YOUR MACHINE

What you could expect to pay for your micro in 1983:

Acorn BBC B: £399
Atari 400: £149
Atari 800: £299.99
Camputers 48K Lynx: £225
Colour Genie: £168
Commodore 64: £299 – cut to £229 in June.
Commodore Vic 20: £149.99
Dragon 32: £175
Jupiter Ace: £69.95
Oric 1: £139.99
Sinclair 16K Spectrum: £99.95
Sinclair 48K Spectrum: £129.95
Sinclair ZX81: £45
TI 99/4A: £189.95 – cut to £99 in October and withdrawn from themarket in November.

1982



Commodore's pride and joy, the C64, was the first machine to offer sprite facilities and decent dedicated chips.

Everyone wanted to jump on to the home computer bandwagon in1982. The Sinclair ZX Spectrum, launched in April, led the pack and heralded the beginning of 'proper' games computing in the UK. The machines that followed in its wake had nothing like the brand loyalty that Sinclair had built up from ZX81 days; and most didn't noticeably improve on Sinclair's appalling disregard for production schedules.

In comparison, the Commodore 64 could have come from another planet. Its specification, which still doesn't look too bad today, was way ahead of its time, and made visitors to the Third International Commodore Computer Show in June (where the machine was previewed) gasp in astonishment.

The 64K memory was huge at the time, and its proper keyboard compared very favourably to that of the rubber-keyed Spectrum. It also had 16-colours, none of the attribute clash problems the Spectrum suffered from, sprite capabilities, a 40-column screen, and the SID – Sound Interface – Chip built in. But, to begin with, you paid for all that mighty technology, and the C64 was launched for a whopping £350 at the end of 1982. And no C2N (the machine's dedicated cassette deck), joysticks, or software included, either.

In the UK, the C64 rapidly joined the Spectrum as a first choice computer for buyers, without actually outselling it. In the rest of the world it was a different story, with the C64 becoming the world's best-selling computer, and it also cleared up in the US. Aggressive price cutting by Commodore, headed by Jack Tramiel, led to a price war and near financial ruin for rival Atari (who, ironically, Tramiel now heads).

ENTER THE DRAGON

The Dragon 32 was launched in July and sold in Boots on terms similar to WH Smith's exclusive contract with the Spectrum. Its 32K RAM, graphics and Basic all compared favourably to Sir Clive's beast – unfortunately, it's predominantly green display proved rather gaudy for programming use and consequently put a lot of people off the machine. The NewBrain finally saw the light of day, and was produced by Grundy Business Systems who had bought the project from Newbury Electronics.

The first Japanese home computer to be sold in the UK was the Sord M5, which was a computer/console hybrid. And let's hear it for the Oric 1 – bugs and all – with its rubber keyboard and 16K RAM. Another Z80-based machine was The Lynx which featured some impressively large memory configurations and high-resolution graphics – unfortunately, it never sold enough to warrant the big chains taking it onboard. Finally, there was the curious Jupiter Ace, developed by Steven Vickers and Richard Altwasser, who had both been on the Sinclair Spectrum design team. It was another Z80 derivative machine, which is chiefly remembered today as the only home computer to sport Forth as its in-built language. This proved to be its downfall.

1983

Plenty of new micros lined up at the starting blocks in 1983. The Acorn Electron was announced in January with a scheduled release date in March. It finally rolled out of Acorn over a year later. In May, Memotech (who were previously a Spectrum alternative keyboard supplier) showed off its Z80-based micro, the Memotech MTX. Mattel announced that the age of its Aquarius would dawn in September – which turned out to be a keyboard-based version of their Intellivision console. IBM dipped a corporate toe into the home computer market with the PC Jr, 128K RAM and a 5.25" disk drive for $1269.

The Coleco Adam was dubbed the 'star' of June's Consumer Electronics Show in Chicago but, by Christmas, Coleco were having so many problems with shortages and reports of faulty machines, that it was glad to have the Cabbage Patch doll to fall back on.

A game called *Valhalla* caught everyone's imagination. Publisher Legend Software claimed it was the 'first computer movie', a Norse scenario peopled with 'independent' characters in which the outcome could be different every time. And at £14.95, it was a nice little earner for Legend – especially since the game was completely coded in BASIC!

In 1983, software, which had hitherto been dominated by unofficial versions of arcade games, began to diversify. Adventure games such as Melbourne House's *The Hobbit* and Level 9's *Colossal Adventure* and *Snowball* had significantly improved parsers. Gilsoft's *Quill* also appeared towards the end of the year and became an essential tool for would-be adventure creators. It was a good time for UK adventure writers, too, since Infocom titles, such as the famous *Zork* series, and Scott Adams adventures, were not easily available in the UK, and certainly weren't converted for any home-grown machines like the Spectrum.



The first licences also started to appear at this time. After dozens of 'unofficial' conversions, star names, such as 2000AD, were used.

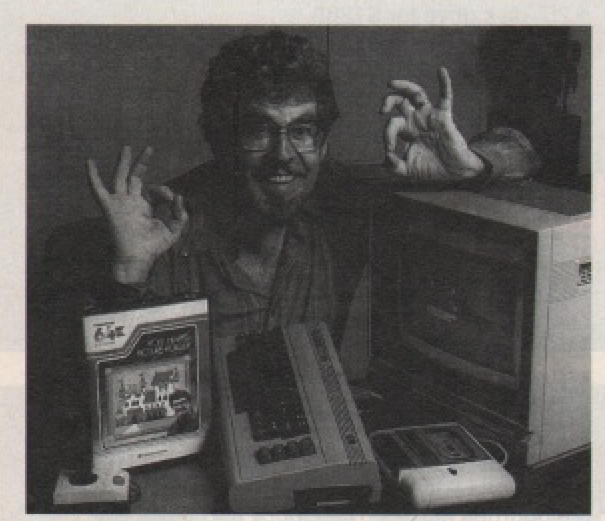
Atari US axed nearly a quarter of its total staff – about 1,700people – after posting 'disastrous'

THE HISTORY of COMPUTERS

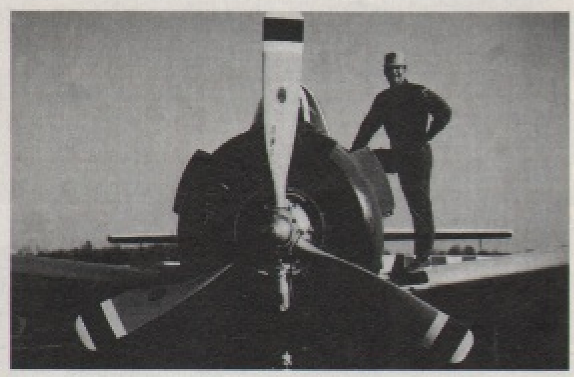
financial results, despite announcing a new 1200XL computer with 64K RAM, and cutting the price of the 800XL (a revamp of the 800) from £499.95 to £399.99. By the end of the year, Warner was looking for a buyer for the company.

SOFT SCENE

Bug Byte, one of the largest and most well-known of the software houses was going through turbulent times. In January, its head programmer Eugene Evans, and staff members David Lawson and Mark Butler broke away from the company to form Imagine Software, and its first game, *Arcadia*, was released for the Spectrum and Vic 20, shortly after. At first, it appeared that Imagine could do no wrong. *Arcadia* sold strongly and the company presented a flamboyant, affluent lifestyle. It appointed Bruce Everiss, the 'incorrigible' Microdigital boss from 1980, to head its marketing, there were tales of fast cars and fast lifestyles, and Imagine finished 1983 on a high – but it was to be short-lived.



Commodore also started to approach the education market with a series of graphic and sound packages.



Bill Stealy's Microprose were at a very early stage, but had started work on the likes of *Silent Service*, *Solo Flight*, and *F15*.

WHATEVER HAPPENED TO?

COMMODORE MAX, ULTIMAX, AND VIC 10

Actually these are all one and the same computer, intended as successors to the Vic 20 in the starter computer market. All three incarnations were announced and previewed at several computer shows. The Ultimax version was notable for offering a flat membrane keyboard like that of the ZX81, while the Commodore Max (the latest version) had 2K RAM, and could produce 16-colours on a 320 x 200screen. It never arrived, and was shortly superseded by prototypes of a 116 and 264, which eventually became the C16 and Plus/4 – which failed dismally to steal the ever-popular C64's thunder.

COMPANIES OF THE TIME

HEWSON CONSULTANTS FOUNDED: 1980

Having worked with main frames and minis during the seventies, Andrew Hewson was an early buyer of the Sinclair ZX80. He began writing programs and books for the machine, advertising them in the few magazines which existed then. Andrew made his name with books of programs for the ZX80, ZX81 and the Spectrum. Pilot Mike Male wrote three flight sims for the ZX81 before his 1983 program, *Heathrow Air Traffic Control*, and the arcade games written by Steve Turner in 1983-84 – *Space Wars* and *Seiddab Attack* ('baddies' backwards).

Attack and *Lunattack* – put real money in Hewson's bank. Hewson claims to be the oldest survivingindependent games software publisher – although Pete Calver's Audiogenic dispute this. However, games such as *Uridium* and *Paradroid* by Andrew Braybrook really set them up with C64 owners, but they never really made it on to the 16-bit scene and consequently folded in 1992 – only to reappear as 21st Century Software in the same year.

FIRST TITLE: Hints and Tips for the ZX80 (book), 1980; Pilot and Nightflite (both ZX81), 1983, both written by Mike Male

BEST EVER SELLER: Paradroid (all versions).



The old favourite, and still going strong – the ZX Spectrum. No other British machine has such an impact as this little beauty.

PSION FOUNDED: OCTOBER 1980

Psion was set up by David Potter on leaving the teaching staff of Imperial College, London. By 1981, the company was enjoying considerable success repackaging and marketing software programs for the ZX81. *Flight Simulation* was a huge early seller, followed by *Horace Goes Skiing*. However, Potter's ambitions lay beyond games and after publishing titles on the Spectrum – *Chequered Flag* and *Scrabble* – Psion took on the task of producing the integrated business software for Clive Sinclair's QL machine. It also took time out to produce its consistently highly-rated *Psion Chess* program in 1984.

At the same time, work began at Psion on hardware development, work which saw the light of day as the first Organiser handheld computer in 1985. Since then, Psion has concentrated almost exclusively on hardware development. The Organiser and its successor, the Organiser II, were bought in a variety of consumer and OEM configurations, and were followed in September 1989 by the MC – Mobile Computer – range.

Psion is, however, unique as a one-time leisure software publisher which has successfully floated on to the USM of the Stock Exchange.

FIRST TITLE: Flight Simulation, ZX81

BEST SELLER: Psion Chess (all formats)

CDS FOUNDED: 1982

In the best British traditions, Ian Williams began by programming a game called *Castle Adventure* for the ZX81 from his back bedroom. To put the operation on a commercial footing, he took the programs along to his local WH Smith, where the branch manager, Giles Hunter, took such an interest in Ian's CDS Micro Systems that he joined the company as sales manager in July 1983.

In December 1983, CDS opened its first shop in Doncaster – there are now twelve – and a few months later Giles bought Ian Williams out. CDS now employs over 100 people, with interests in full-price and budget software, retailing, distribution, tape and disk duplication, packaging and printing.

FIRST TITLE: Castle Adventure, ZX81

BEST EVER SELLER: Colossus Chess, closely followed by Steve Davis Snooker (all versions)

DIGITAL INTEGRATION FOUNDED: FEBRUARY 1982

Dave Marshall and Rod Swift, like so many others at the time, developed their first program, *Fighter Pilot*, in their leisure time – transferring skills learnt at the Royal Aircraft Establishment over to the ZX81. Dave now describes *Fighter Pilot* as 'rudimentary', and it was *Night Gunner* on the ZX81 which, with sales of over 10,000 through WH Smiths, enabled the company to set up on a commercial basis. Both *Fighter Pilot* and *Night Gunner* were converted on to the Spectrum in 1983, and Dave and Rod gave up their jobs to go full-time at DI.

FIRST TITLE: Fighter Pilot, ZX81

BEST EVER SELLER: Fighter Pilot, all versions

VIRGIN GAMES FOUNDED: FEBRUARY 1983

No romantic back bedroom tales here. Virgin Games, set up by Nick Alexander, was a natural expansion for Richard Branson's 13-year-old record company, and was set up in a blaze of publicity. The quality of its programs noticeably improved after Virgin setup an in-house programming team, the Gang of Five, in 1984.

In 1986, Virgin Games bought out Leisure Genius and its range of licensed board game conversions. Also, in October 1987, it acquired a stake in Mastertronic, the pioneer budget house. The takeover was completed a year later to form a new company, Virgin Mastertronic. The involvement with Mastertronic then gave Virgin its first entry into hardware, becoming the sole distributors of the Sega games console range in November 1987.

FIRST TITLE: After an initial batch of eight titles which were relatively unsuccessful, *Falcon Patrol* was the company's first hit.

BEST EVER SELLER: Sorcery (all formats)/Jimmy White's Whirlwind Snooker

MIRRORSOFT FOUNDED: NOVEMBER 1983/JUNE 1985

Although Mirrorsoft was set up by Mirror Newspapers' development manager, Jim Mackonochie, as a feasibility project in November 1983, it did not become a company in its own right until June 1985. Early titles included such educational gems as *Caesar The Cat*, *First Steps With The Mr Men* and *Quick Thinking* (early 1984). *Spitfire 40* was published in Spring 1984 ('I remember the date very clearly, because I spent Easter Monday at the duplicators, desperately trying to fix a bug in it,' says Jim).

Mirrorsoft trundled along with neither big hits nor too many grand disasters until it began to make a speciality of the growing 16-bit market in 1987, using its Cinemaware licence as a springboard. The Mirror Group bought US companies FTL and Spectrum Holobyte (now owned by Microprose) to add to its software stable, while Mirrorsoft created a new games label, Imageworks. Of course, with the untimely swimming lesson taken by Cap'n Bob (Mirror owner, Robert Maxwell), the company has since folded and its forthcoming products have been spread to the likes of Virgin and Mindscape.

FIRST TITLE: Game Creator, 1983 (written by the then teenagers, David and Richard Darling who now head Codemasters)

BEST EVER SELLER: Falcon (all versions)



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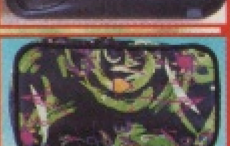
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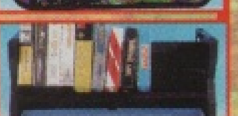
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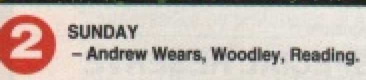
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GREAT MA





2 SUNDAY
– Andrew Wears, Woodley, Reading.

3 CHAIR AND PIPE
– Mark Sheeky, Crewe.





4 PICASSO
– Dale Askew, Worwich, Norfolk.

Budding *DPaint* Da Vinci's were given the chance to show off their talent in a competition we ran with Philips last November. Up for grabs was a Philips' CM8833 monitor and three bundles of Microprose games as runner-up prizes. To say we were overwhelmed with submissions would be a vast understatement as the majority of entrants showed a mature and confident style. Here are the top four winners as well as a selection of artwork from other entrants – I'm sure you'll agree they are all credible efforts and it's a shame there can only be one overall winner...



Below: BRIDGE
– Tristran Kelly, Uttoxeter, Staffs.

Below: SCREAM
– R.R. Davies, Northgate, Crawley.

Above: SELF PORTRAIT 1967
– Mr. G. Rudkin, Mablethorpe, Lincolnshire.



PORTRAIT OF IRMA BRUNNER
– Lee Martin, Keysnam, Bristol.

Above: LE MOULIN DE LA GALETTE
– Tony Adams, Rainham, Gillingham.

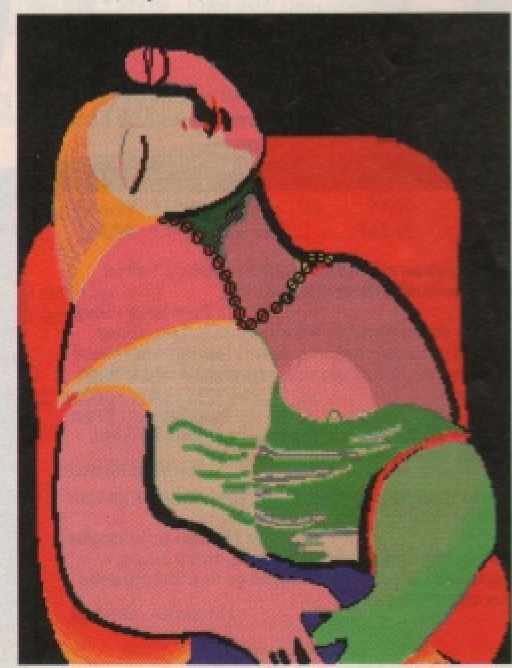


ART GONE WILD – Gareth Burgess, Abergwfni, Port Talbot.





AFTERJANVANEYCK AND GIOVANNIAROLFINI
– J.T. Pearson, Ringwood, Hampshire.



THE DREAM
– Lee Martin, Keysnam, Bristol.

ART GALLERY

Starting in two months time, CU AMIGA will be running a regular Art Gallery section where we want to feature the best Amiga artwork sent in by our readers. So, if you want to have your work admired by over 100,000 readers, here's what to do. When creating your picture, please save it out at regular intervals so we can see it build up over a number of frames. Then, once the picture is complete, we'd like you to jot some info down on a piece of paper detailing the picture's development over the five to six screens you've submitted. Then we'll present your picture in a step-by-step guide so that other readers can attempt to emulate your style. So what's in it for you, except seeing your name in print? Well, for your efforts, we'll reward you with a bundle of free software worth at least £50 for each picture used. Send all work to:

ART GALLERY, CU AMIGA, EMAP IMAGES, 30-32 FARRINGDON LANE, FARRINGDON, LONDON, EC1R 3AU.

EVERYONE'S A WINNER

We were so impressed by the efforts shown here that, when it came to laying the article out, we wanted to display as many of the entries as possible. So, even if you weren't among the lucky four who won the monitor or the Microprose games, but whose picture is shown, a game will be winging its way to you soon...

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58 CIVILISATION

68 TV BASEBALL

66 ZOOL

73 PREMIERE

First Impressions

The Amiga games scene is still proving extremely busy, and CU is here to keep you up to date on what's happening...

FOOTBALL KID






He's Football mad and on a trip around the World. Arriving in America for the 1994 World Cup, our cheeky hero must dribble his ball across the horizontally-scrolling stages, whilst punting the ball past any obstacles and climbing over any platforms he encounters. In addition, there are plenty of bonus jewels to be collected, too.

Krisalis

THINKING AHEAD

After the recent spate of Footy licenses cashing in on the European Championships, it's refreshing to find Rotherham-based Krisalis Software attempting to inject some life into the genre. Instead of opting for an arcade kickaround or a management sim (which they've recently covered with their John Barnes and Graham Taylor licenses), they've chosen to combine the arcade playability of their end-to-end football games with a platform game. The result is *Football Kid* (its provisional title), a multi-level affair



based around the forthcoming 1994 World Cup.

Now, this might sound like a recipe for a disaster, but from what we've seen so far it looks like Krisalis won't be scoring an own goal. The game's design and development is being handled by Teque, the force behind *Shadowlands*, *Man United* and *Chase HQ* to name but a few. There will be six levels in all, each made up of a further three stages. Each level is set in a different country with the action starting of in good ol' Blighty and finishing up in the USA, the host country of the aforementioned World Cup.

The individual stages are themed, too, with the American levels involving the player dribbling the ball across a Wild West scenario, the Manhattan skyline, and California. The small sprite under your control will be able to pull off a wide range of trick shots, such as overhead kicks and headers, as he dribbles his way over all manner of obstacles and past stage-specific nasties. Adversaries will include American Football players and surfers in the US, and Beef Eaters and soccer hooligans in the UK (!). Quicksand, volcanoes, earthquakes, and huge chasms will also add to the test of skills as well as innumerable platforms to overcome.

PLAY YOUR CARDS RIGHT

There will also be a series of football cards to collect as you traverse each level, and when a sufficient number have been collected, different full-size player cards at the bottom of the screen will light up. Once lit, these will give you extra speed, better kick power, trick shots, or other goodies. There'll also be a number of puzzles to solve, too, although nothing very complex.

The team behind the game – Pete Harrup, Neil Adamson, and Matthew Furniss – have all worked on *Man United Europe* and are no strangers to the Soccer genre. At the moment the game is limited to a one-player mode, although a simultaneous two-player game isn't out of the question. That would open up a whole range of passing moves and add yet another competitive element to the game. *Football Kid* has been in development for roughly three months, with the basic engine and map editor in place. Although still missing are several adversaries and some of the puzzle elements, the scrolling is already silky smooth and the ball control excellent. Watch for it sometime in November – something tells us that this is going to be extremely big...

TRODDLERS

Storm



Hot from the team who brought you the rather dodgy *Covergirl Poker*, comes the latest in the many claims to *Lemmings*' throne. *Troddlers* is an 80-stage puzzler, with the player guiding the titular creatures to an exit by helping a portly sprite place a series of blocks in their way to create steps or bridges past a series of hazards. The game's scenario tells of a pair of apprentice magicians who unwittingly unleash the troublesome Troddlers and must recapture them before they cause too much havoc. However, in addition to the basic rescue mission, the game also features a combat mode and a two-player team effort where you can either opt to kill your opponent's creatures or work together to get them back safely.

Initially, the screens are laid out to ease the player into the proceedings, but on later levels, the number of stepping stone blocks available is reduced whilst the obstacles needed to be covered gets steadily higher. In addition, grey renegade Troddlers are also out to thwart your plans, and will kill your onscreen persona on contact. Add to this, a series of revolving meat grinders, and sub-levels involving diamond collection and you have a real brain-strainer.

With eighty levels in one-player mode, and a further forty for the two-player games, *Troddlers* offers a massive challenge. It's pencilled in for an August release, so expect a review very soon.



NOBBY THE AARDVARK

Thalamus

If Thalamus have their way, the likes of Sonic The Hedgehog and Mario are going to have to make way for one Nobby The Aardvark. Fresh from the imaginations of the team behind *CJ's Elephant Antics*, *Nobby The Aardvark* is an eight-way-scrolling arcade/adventure where the titular hero must find his 'Antopia' – a paradise where female Aardvarks and Ant-based meals are freely available. Controlling Nobby, the player must guide him as he runs and jumps across the colourful levels, using his long nose to suck ants from their mound-like homes. In addition, also prowling each level are a series of deadly creatures who will sap our blue hero's energy on contact – but not if he shoots any collected Ants from his nasal passages, though.





As the game progresses, Nobby must use massive balloons and other such transportation to make his way past the increasingly-tortuous levels. Similarly, as the levels get larger, so does the number of creatures out to get Nobby – and the Anthills get steadily scarcer.

It has to be said that *Nobby* looks like a rather smart arcade/adventure. The graphics are big, bold and cartoon-like, and Nobby is extremely well animated. The game is pencilled in for a September release, so expect a review shortly.

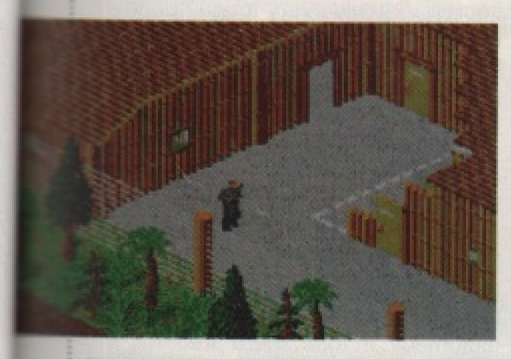
SAS

Krisalis

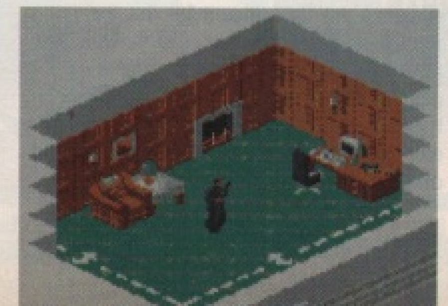
Designed in a similar vein to *Laser Squad* and *Space Crusade*, in so much as each turn is dependent on action points, *SAS Command* (provisional title) is based on the hard-hitting exploits of the Hertfordshire-based regiment whose popular slogan, 'Who Dares Wins' was also the title of a popular 8-bit title by the now-defunct Alligator. Other SAS-inspired games include Infogrames' *Hostages* and another 8-bit title, *Saboteur* from Durell, but neither were very inspired.

Krisalis aim to change all that with their new title, which includes five SAS missions to complete with further mission disks set for release if the first game is a success. The inventory screens are crammed full of weapons, bullet-proof vests, and other useful armaments and the game also boasts full-stereo sound to add extra realism to the proceedings.

The game features an isometric cut-away view of the proceedings with enemy sprites only visible when in the player's line of sight. There's also the usual mental health, strength and marksmanship ratings, plus reams of statistics to keep the number-crunchers happy. Expect more news soon.

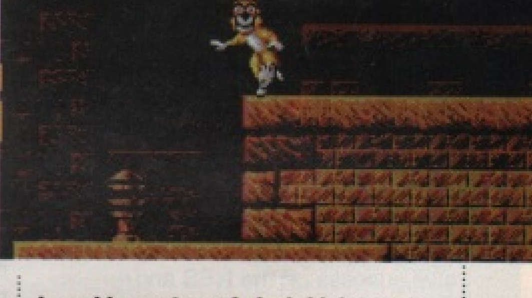






SLEEPWALKER

Ocean



Nothing to do with the Stephen King film of the same name, *Sleepwalker* is a platform game which is similar to... well, nothing really. The scenario revolves around a somnambulist (that's a sleepwalker to you and I) who is obviously prone to getting up and going walkies during the night – now, ordinarily, this would be fine, but right next to his bedroom are a construction site, a factory, and a zoo – not to mention numerous death scenarios. Luckily, though, man's best friend is here to help – and this is where you come in.

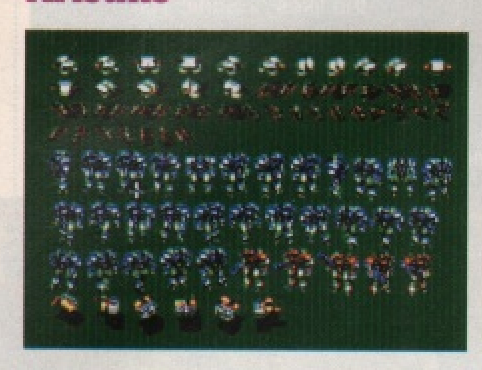
As the sleepwalker wanders around the eight-way-scrolling play areas, the player must steer him away from danger by taking control of his trusty dog. Ever resourceful, this mutt must keep his master safe by bridging any gaps and – if necessary – kicking him up to a higher level and, hopefully, safety. In addition, the many death-dealing objects and creatures must also be rendered safe – but this normally involves a sacrifice on the poor dog's part!

Sleepwalker is a jolly little game and although the demo we saw was at a very early stage, the bare elements of the gameplay hold together extremely well. Graphically, the game is stunning, too, with bright uses of colour and attractive sprites. There's no release date yet, but stay tuned for more news.



SHADOW WORLDS

Krisalis







After the success of *Shadowlands* (CU Screenstar, 91%), its sequel is already on the way. In fact, development of the second game began before *Shadowlands* was even released. Surprisingly, though, the new game will not be published by Domark, as the rights have been snapped up by Krisalis. Apparently, Domark weren't willing to commit to the game before they saw a positive return on the first one whereas Krisalis had no such hesitation.

This time, the action's set on an orbiting weapon's research facility which has been overrun by alien hordes (shades of *Alien Breed*, et al). Four soldiers are placed under your control, and are sent to eradicate the alien menace. This time, the swords and magic spells have been replaced by spacesuits and lasers and the dungeons by dank and gloomy corridors. In fact, the game is an Aliens licence in all but name, with face-huggers and other such nasties lurking in the shadows.

Already a number of improvements over the original game have been implemented. For starters, the spindly sprites of the first game have been rejected in favour of beefy-looking ones, and the same goes for the aliens. The control system has also been overhauled, with the inventory screens combined into one and less mouse-clicks needed to manipulate objects. Food stores have been replaced by intravenous food bags and torches by lights perched atop the crew's helmets. There are also 64 different weapon combinations available, thanks to the various ammo clips scattered around each level. These effectively replace the magic spells of the first game.

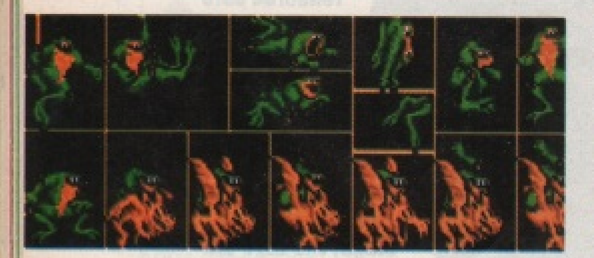
Shadow Worlds is set for release in December and already looks like a winner. Krisalis are promising more action-orientated gameplay, tougher puzzles(!), a wide variety of different locations, and some excellent and atmospheric graphics. Here's a future number one in the making, methinks.

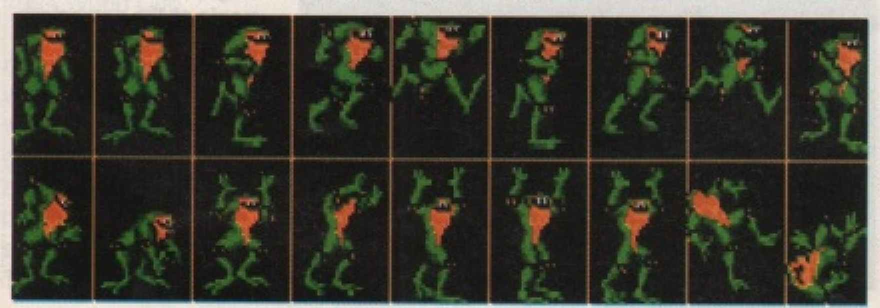
BATTLETOADS

Mindscape

Move over Donatello and Co. – the Battletoads are here. Already a massive success on the NES and Gameboy systems, Mindscape are currently in the process of bringing this new wave of Amphibian heroes to the Amiga. *Battletoads* is a multi-directionally-scrolling platform game with beat 'em up elements thrown in for good measure. Controlling one of the Toad gang, the player must basically smash a path through each of the levels in search of the exit. However, this is easier said than done, and the levels get rapidly more tortuous, with obstacles and hazards added to the landscape to maker your already difficult task harder.

Battletoads is being converted from the NES version by an in-house Mindscape team and, although the version we saw was very early, the bare bones of the action has survived the transition very well. The levels and enemy sprites are currently being finalised and added to the existing play area, and a PC is being used for the development chores, and, if all goes to plan and with a prevailing wind, the game should be available towards the end of September.





KGB

Virgin

The dark and mysterious world of the KGB comes under scrutiny in Virgin's latest mind-bender. Assuming the role of former Army Captain, Maksim Rukov, the player has been suddenly tranferred to the KGB – and your task is to locate and get rid of any corrupt KGB officers. As soon as you start this unwanted new job, stories lead you to believe that the suspected corruption is considerably worse than your overseers originally believed. However, such is the extent of the misuse of power, that your investigations are far from welcome and your operation could be thwarted by the people responsible for the crimes.



By working your way through small missions, the plot is slowly unravelled and your power within the KGB will grow. Those canny French guys behind *Dune*, Cryo, are the team behind *KGB* and they have gone into massive detail regarding the many characters in *KGB* and these are integral to the plot's many twists. Expect a review in our September/October issue.



CRUSADERS OF THE DARK SAVANT

US Gold

After the recent relaunch of *Bane of the Cosmic Forge*, the stage is now set for the seventh *Wizardry* title to make its debut. American developers, Sir-Tech, have pulled out all the stops on this one, promising a game of 'unparalleled diversity, sophistication and enjoyment'. The game begins where *Bane of the Cosmic Forge* left off. Or rather it begins from a choice of four different starting points, depending on how you finished *Bane*. Experienced players enter the game from one of three predetermined starting points while new players get a full-blown account of the *Wizardry* mythos.

Dark Savant will feature 64 colours on-screen and some impressive digitized graphics. Chris Appel, the lead artist, has been working on the game for more than a year and, for the first time, the *Wizardry* series is set to abandon the murky confines of assorted Dungeons for the 'real' world of forests, lakes and cities. The new game has also adopted a point'n'click mouse interface, so there's little need for keyboard input except for conversing with non-player characters. In addition *Dark Savant* has an auto-mapping facility which tracks the player's progress through the world, marking landmarks such as trees and walls.

The game's plot is just as involved as you'd expect. A millenium ago, a great scientist discovered the secret of life itself and, realising the importance of his discovery, went into 'Ostrich Mode' and hid his new-found device in the heart of a distant planet. Years later, a lone mining ship stumbles across the planet and the race is on to rediscover the scientist's lost secret. Virtually every tough space mercenary you can imagine is after the key to ultimate power, and your party will meet a variety of computer-controlled parties along the way.

Dark Savant also boasts an expanded spell system, offering more than 90 spells, each with seven power levels, allowing up to 600 different incantations of magic. There are a number of new skills included, too, such as climbing, swimming, and diplomacy. In total, there are 1,129,000,342,008 different party combinations possible from the eleven races, fourteen professions and two sexes on offer. With three different difficulty levels, it looks likely that *Dark savant* will be the most popular of the *Wizardry* series yet.


PREMIERE
CORE
1 TON
Première is an eight-way scrolling platform adventure played over six levels which are represented as different movie sets.
A young film editor has had his film stolen from his cutting room the night before the film's première. Your task is to search through the six different movie sets ranging from black and white, science fiction and horror levels through to cartoon, western and fantasy sets to retrieve the stolen canisters.
Will you find the stolen film before the Première?
CORE
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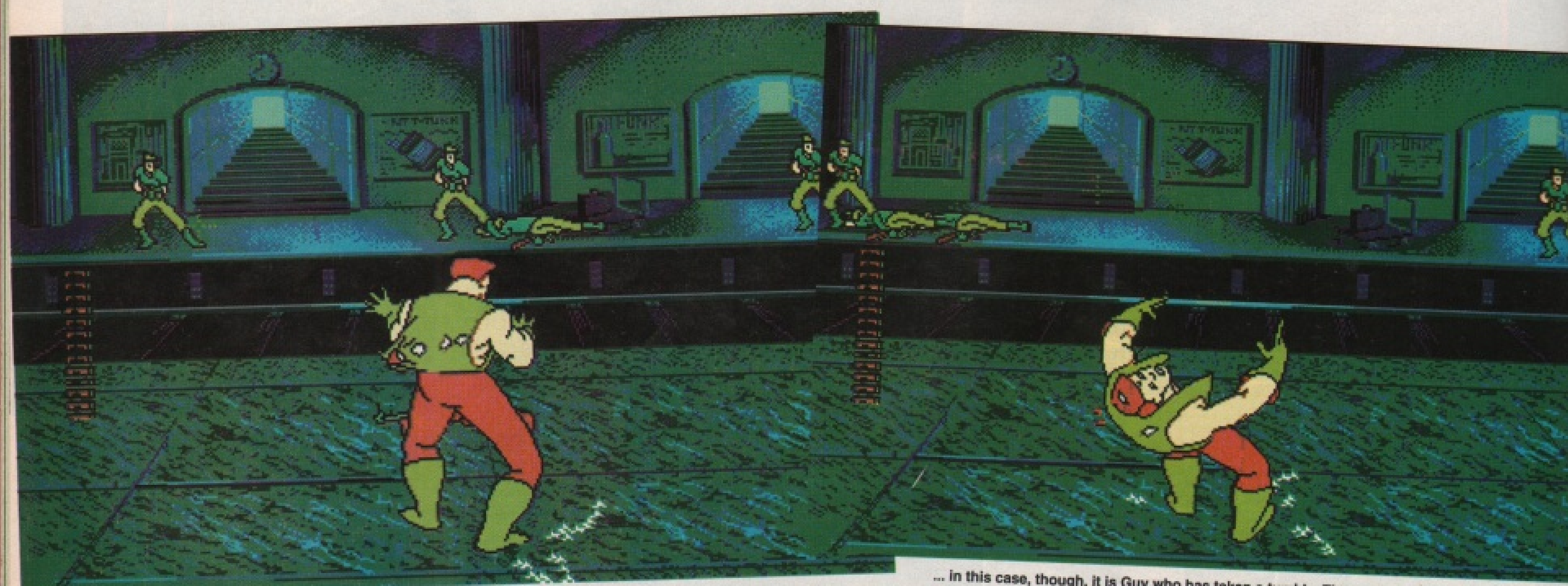
On receiving a message from HQ regarding Von Max's whereabouts, Guy snatches up the memo and races from his dingy room. As with the rest of the game, the graphical touches in this scene are stunning – with Cockroaches scuttling across Guy's desk!

Following every action sequence, a short animation plots Guy's path to his next destination. These help set the scene for the forthcoming action, and give the game a film-like atmosphere.



A map is essential if a route through the massive pyramid is to be found. Danger lies around every corner, but getting lost can cause more than a few headaches. In addition, a rather vicious God awaits you at the pyramid's exit.

Naturally enough for an all-round hero, Guy is a dab hand at fisticuffs. Several fights take place throughout the adventure, including a final bout with Von Max himself.



Guy can only take a limited number of hits and, during the first action sequence in Berlin, he must evade the enemy's fire whilst simultaneously shooting back. White specks dot where the bullets have hit, and a set number of soldiers must be taken out...

... in this case, though, it is Guy who has taken a tumble. Three 'mini-Guys' are used to depict our hero's state of health, but these are soon whittled away by constant fire.

Steve Keen snatches up a Walther PPK and his passport before setting off across the world with Readysoft's 5Mb marvel...

GUY SPY

REVOLUTIONARY

Guy Spy is quite easily one of the most eagerly-awaited games of the year. From its initiation early on in January, and our special In Development article six months ago, interest has snowballed – the question on everyone's lips was: can real gameplay be added to Readysoft's stunning cartoon-quality graphics? Now, more than eighteen months on, the finished product is poised to hit the shelves and revolutionise the world of animated interactive gaming.

The game's plot would not look out of place in any of Ian Fleming's James Bond novels. Guy is summoned before the chief of International security and informed that the evil Baron Von Max has located the whereabouts of the legendary Crystals of Armageddon. Max needs these crystals to power the awesome doomsday machine he's constructed in the mountains at an unknown destination. Taking up the mission, Guy must track down the tyrant, destroy the machine and restore world peace – hurrah!

SOUNDING OUT

Undoubtedly due to the incredibly memory intensive graphics, there wasn't a lot of room left for sound. However, Readysoft haven't neglected this area of their game totally, and a brilliant atmospheric music track plays throughout, changing with each location. Some choice sound effects have also been incorporated at select moments and the usual slashings, gun shots, grunts and groans can be heard amongst a few others.

CARTOON CAPERS

Guy Spy is presented as a cartoon adventure in much the same way as the *Dragon's Lair* series before it. In fact, the whole thing has been produced in more or less the same vein as *Space Ace* but features longer, more playable sections, with the player actually controlling Guy rather than guiding him when necessary. The term 'Interactive' when used to describe *Guy Spy* is still slightly misleading, though, as it's no more interactive than most games. Although you do exercise control over the character, it's still never more than walk left, step right, punch or whatever. That's not to say that Guy doesn't perform numerous acts throughout the game. He has sword fights with Arabs, pole fights with Incas, and punch ups in bars – but he's never able to perform more than a few functions in any given situation.



Whenever Guy meets a sticky end, a *Dragon's Lair*-style animation shows our hero's rather comical death. These range from crushings to being burnt to death and all are stunning to watch.

Each of *Guy Spy's* levels are totally different. In fact, it's like playing thirteen different games in one package. It's easy to see where the 1500 frames of animation have gone as no two levels are the same. For instance, Guy may find himself hurtling down a mountain side on a set of skis dodging sniper fire in one section, or picking off assassins during a ski lift chase. Every time you change scenarios, Guy's sprite changes, too. He never stands less than a quarter of the screen high, but he also moves into the fore and background, too.

AND SO TO WORK...

During the game, Guy will be called upon to traverse thirteen levels and

GUYSPY

utilise more in-game control combinations than there are Rice Krispies in a Toffee Crisp. You pick up Von Max's trail in Berlin where intelligence reports have indicated that the megalomaniac is travelling to Switzerland by train. After purchasing a ticket, Guy walks out onto the platform and waits for the next arrival. However, Von Max is already wise to our hero's whereabouts and dispatches a crack team of mercenaries to cut him to ribbons with machinegun fire.

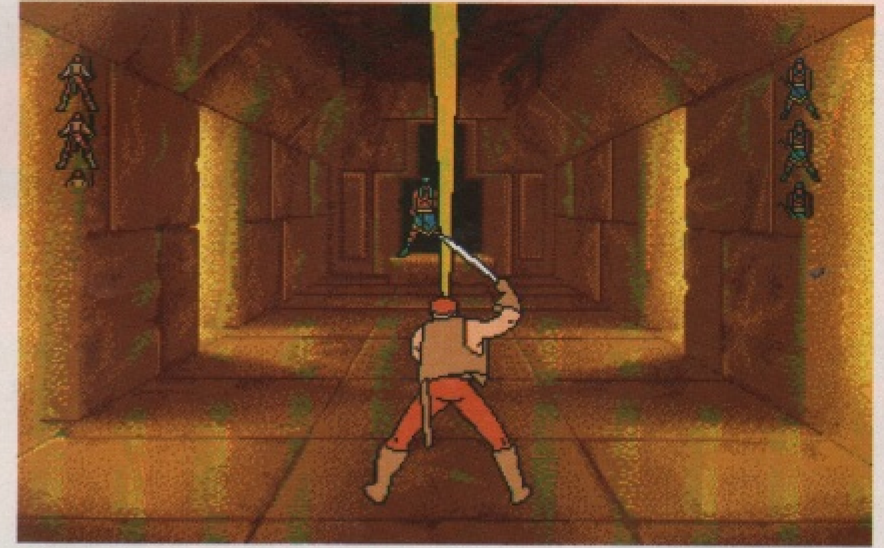
DO OR DIE

The one-inch-high enemy sprites bound onto the screen from the left and right on the other side of the platform as Guy dodges their fire and returns his own. For this section you are given three lives which are eaten up extremely quickly by repeated hits. White marks appear on the floor as the bullets pepper the platform and give you an indication of which way you should be heading. You can move Guy left and right in crab-like fashion via the joystick or, if you're stuck in a corner, a spectacular roll to the side will get you out of the line of fire. By moving the joystick in the four main positions you obtain control of the cursor that directs your fire. When it touches a target it turns red signifying that would be a good time to shoot. It's in this very first section that frustration rears its head, though. The cursor doesn't scroll about the screen but jumps in half inch lots whenever moved often missing its target by an infuriating few millimetres. The mercenaries can do everything Guy can and most of the time a lot better. They are incredibly fast at pumping out the bullets once they've found their mark and jump and roll about like a Russian Gymnast on Isotonic Lucozade, making the last few men very hard to hit.

KEEPING UP APPEARANCES

Each level is linked by an animated section to keep you up to date with the plot. In true *Space Ace* style, Von Max appears to taunt you just as Borf did in his games. Also, continuity buffs will have a field day as they spot all the mistakes between the intro graphics and the actual game screen graphics. After the station scenario, Guy jumps off the train and runs into a ski lift. Somewhere between going through the door and passing into the cab he manages to materialise a hat atop of his well-rounded head!

The varying game sections load very quickly considering their memory size. The static graphics, backdrops, etc, are of an extremely high quality, and make the rather simplistic renditions of the moving sprites look out of place. Additionally, the animation serves its purpose well and if you had to rate it on the Eric Schwartz'o'Meter it would score a four out of five. There's something very strange about the way Guy walks in some of the screens, too. Early in the game, he moves around looking like he's recovering from a bad case of piles and, in the penultimate scene, he develops a wiggle which would make Julian Clary blush.



As Guy prepares to leave the Pyramid, a God-like being appears and lobs lightning bolts at him. However, by picking up and throwing conveniently-placed swords, the God can eventually be killed.



At last, Guy has found Von Max's super-weapon. As he picks off the oncoming guards, though, it's difficult not to notice his rather camp walk and poise!



Deep in the jungle, a stick fight and a stand-off against a bunch of arrow-firing natives must be completed. However, death comes thick and fast in these scenes...

PICK'N'MIX

Of the thirteen levels it's fair to say that most are enjoyable, but there's only a handful you'll want to play again. One section, which involves exploring a pyramid, requires mapping which I found very tedious and slowed the game down. Conversely, though, others were completed within seconds of my first attempt. The best levels have been sensibly placed sporadically to keep the interest up, though, and there are enough of them to keep you coming back for more. Couple these with the fine and often humorous link animations and three difficulty settings, and the game goes a long way to restoring credibility to Readysoft gaming. This is the closest anyone has come to a fully animated and playable adventure and the Canadian-base company deserve enormous credit. It's still not the perfect cartoon-quality game, but I seriously doubt whether a floppy-based Amiga would ever be able to house such a project anyway. That said, though, what Readysoft have achieved here is admirable and it's a hefty step in the right direction, and one that deserves praise. It's by no means perfect, but give it a whirl regardless.

SOUNDING OUT

Undoubtedly due to the incredibly memory intensive graphics, there wasn't a lot of room left for sound. However, Readysoft haven't neglected this area of their game totally, and a brilliant atmospheric music track plays throughout, changing with each location. Some choice sound effects have also been incorporated at select moments and the usual slashing, gun shot, grunts and groans can be heard amongst a few others.



buyers guide

release date	July 1992
genre:	Animated adventure
team:	Readysoft
controls:	joystick
numbers of disks:	4
number of players:	1
continues:	yes
memory:	512k

READYSOFT £29.99

"At last a playable, cartoon adventure..."

GRAPHICS	97%
SOUND	79%
LASTABILITY	78%
PLAYABILITY	78%

OVERALL 82%



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CIVILISA

Emperor Tony Dillon casts a ruling eye over Microprose's latest strategic offering , and finds there's more to being a Royal than meets the eye.

YE GODS!

Since the earliest days of *Populous*, there has been a stream of God games, from *Powermonger* to *Sim City*, all of which give the player the chance to evolve a race or civilisation. In *Populous*, you did it by reforming the planet, in *Mega-Lo-Mania*, by increasing the warfaring capabilities of your people – but there has never been a game which has required realistic political and psychological skills. The enemy have always been a blinkered opponent who are only satisfied when they have sentenced you to death. Long time Microprose designer, Sid Meier (the brains behind *Gunship*, *Railroad Tycoon* and *Pirates* to name but a few), has come up with what, in my opinion, is the ultimate God game, one that requires true strategy.

RULING HAND

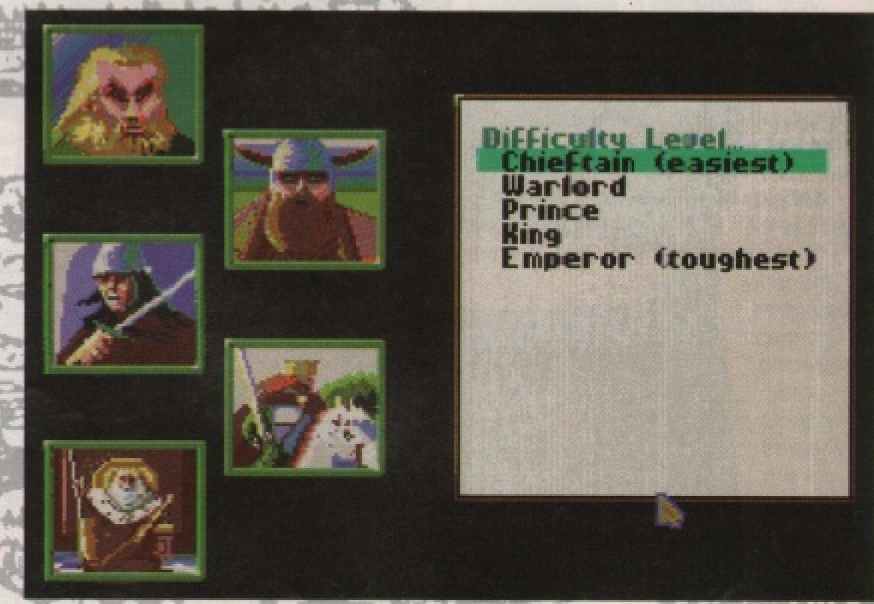
You begin the game as the despot ruler of a small city, populated by a group of people who, although slightly more advanced than the rampaging barbarians who roam the planet, still have a long way to go before they can lay any claims of being truly civilised. The aim is an ambiguous one: either evolve to the point of reaching the colonisation of space, or become the ruling civilisation on the planet by wiping out any other computer-controlled races. Between two and six of these opposing civilisations all have the same aims as you, and are evolving on the same planet – if not on the same continent. Also ranged against you is the temperamental state of your people and the barbarians that wander about aimlessly. If your own people are unhappy, they aren't going to follow your instructions, leaving you out in the cold.

The way *Civilisation* works is a little hard to describe in such a short space. You, as ruler, begin with one city, within which things are created. People can be trained as soldiers or travellers, and can be made to leave the city to explore the world. Soldiers are there purely for combat, but travellers can build roads and develop new cities, expanding the realm you control. With this method, you can quickly gain control over large masses of land.

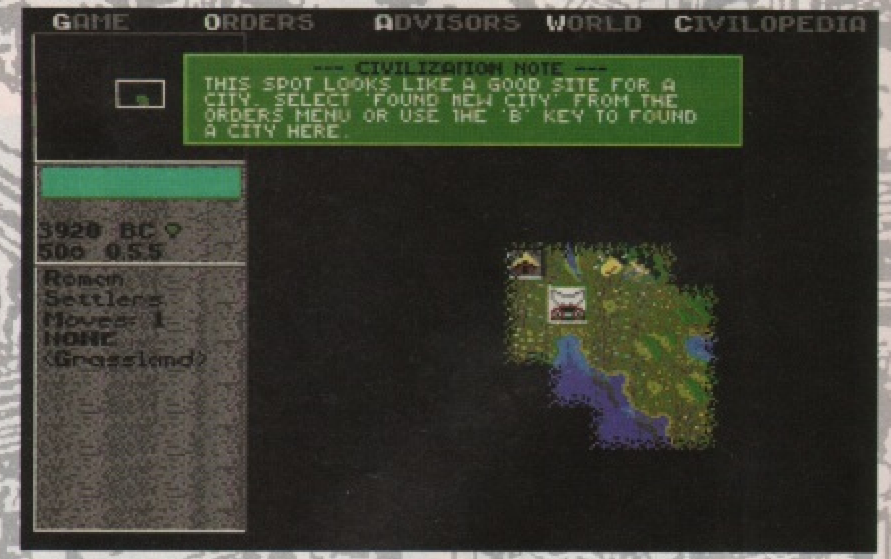
EVOLUTION

But there's no use in controlling large masses if you still have your head stuck in the dark ages, and this is where your people's evolution comes into things. And this occurs within the cities you build. How fast they can be built depends on the happiness of the people and the availability of the necessary resources, so choosing where to site new cities is critical. What you can build depends on how much your people know, and your wise leaders are researching new ideas all the time. For instance, you are presented with a list of possible concepts to learn and from it you could choose, say, Alphabet or Code Of Laws. As you learn skills, you can consequently advance your society. For example, by learning Philosophy and mixing your newfound knowledge with Literacy, you can become a Democracy – which is important for keeping people happy in the later stages of evolution. Similarly, learning Combustion and Physics lends you the tools needed to create a fighter plane. Choosing which skills to learn, and then working with them accordingly is the key to success. After all, why continue to send out unarmed soldiers when you have the

LORD MEIER OF LONDON Sid Meier and MPS Labs have been working with Microprose in the US since the company began, and have come up with some of the company's most popular games. Starting with humble war simulations, such as *Silent Service I* and *II*, *F-15 Strike Eagle*, *Gunship* and *Stealth Fighter*, he soon went on to prove he was capable of much more with the massively popular *Railroad Tycoon*, the espionage epic, *Covert Action*, and the Tom Clancy conversion of *Red Storm Rising*. The rumour is that he's currently working on a sequel to *Pirates*. We wait with baited breath.



Via this menu screen, the player can tailor *Civilisation* to suit their skill level. Virtually every aspect of the game can be fiddled with from here.



When playing at the beginner's level, the computer will help the struggling leader by prompting certain actions. For instance, if you are slow in creating a city, it will do it for you.



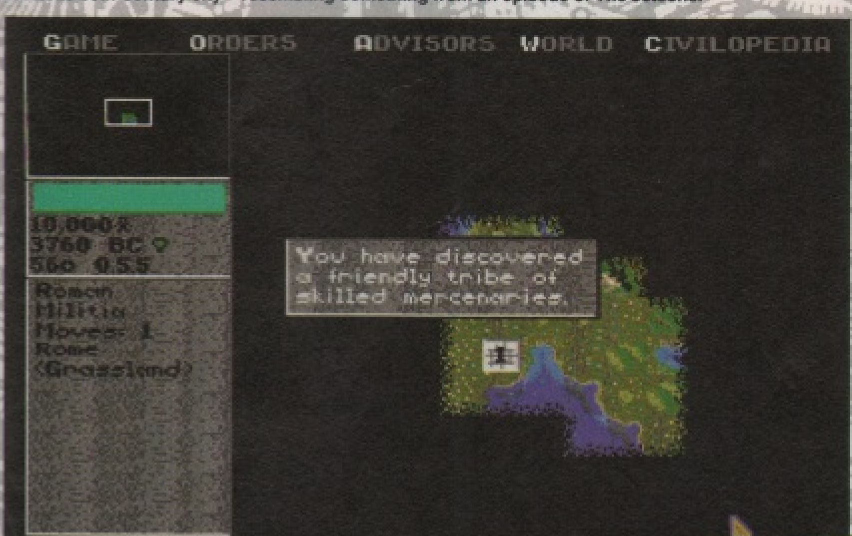
From this screen, you govern the running of your city. However, you are not alone in this unenviable task, and two advisers are present to offer advice.





Rome founded: 3880 BC.

Whenever a city is being built, a short animation plays as your plans reach fruition. Although this is currently a very primitive Roman site, from this little acorn you could eventually evolve into a huge futuristic 30th Century city – resembling something from an episode of The Jetsons.



Above: You're not the only people wandering around, and nomadic bands of Barbarians and settlers will be met along the way.

CODE OF LAWS
Civilization Advance
(Discovered)
Requires Alphabet
Allows:
Monarchy (with Ceremonial Burial)
Trade (with Currency)
Literacy (with Writing)
The Republic (with Literacy)
Courthouse improvement

capacity to build tanks?

With a game this complex, you would think the beginner would find it impossible to play – especially without a degree in politics – but fear not. Help is at hand in the form of aides in all walks of the game. A science advisor will recommend the best skills to learn, while a military advisor will give you tips on how to improve the physical standing of your empire. In addition, the program will occasionally throw boxes onto the screen, offering hints such as the best locations to place cities, or remind you to build roads to improve trade routes. These features stop the game being so immediately daunting, but they don't make it any easier to beat.

DARK AGES

As with most games of this genre, *Civilisation* is viewed from above, with the world broken down into squares. To begin with, the only areas you can see are the eight squares directly surrounding your city but, as the game progresses, you can send armies out to explore the continents, and this soon reveals more of the landscape as it is discovered. The map is completely wraparound, of course, but things like other islands and continents will remain out of your reach until you are suitably evolved to devise means to cross the rivers and stretches of sea that break up the land masses.

The game is played out in turns, and each turn you can issue an order to each of your units, whether it's telling a band of travellers to move one square north and to build a road as they go, or even ordering a city to build a temple as a means of placating the civilians living there – or ordering an army to storm a small town. The orders can be issued from one of the menu bars at the top of the screen, or by hotkeys, whichever you find most comfortable.

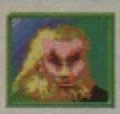
But you aren't the only civilisation on the planet, and sometimes you have to wait for your opponents to make their move which isn't always against you. Sometimes, an envoy from an opposing town, the French King, for example, will offer a peace treaty in exchange for the secret of Masonry. Agree with this, and you are guaranteed complete peace, for a while. The more powerful an opponent is, the more likely they are to break the treaty, probably breaking your rule into the bargain.

GET INTO IT

When playing *Civilisation* for the first time, it's all too easy to be overawed by the intricacy of the game system. There is so much to keep an eye out for – you can even bump into key historical figures! – that managing a city itself can be a mind-numbing and difficult task. The game is so huge, and yet so involving that once you are playing, there is little chance of seeing family or friends for quite a while. Although for a lot of the time, all you are doing is moving units about and waiting for things to be built and skills to be learnt, the game never seems to get repetitive. Add to that the ability to tailor the physical structure of the planet to make it easier or harder on yourself, five skill levels, and up to six opponents, and you are looking at a game which plays differently every time. Sid Meier has never, to my mind, come up with a losing design. Microprose are taking a hell of a risk putting something this deep on the shelves in these console-led days, but it's a risk worth taking. In these days of plentiful 'consolely' products it's refreshing to play something like this, and the simplicity of such console product can only emphasise that *Civilisation* is the work of a genius.

THE RULING CLASSES

As a civilisation changes, so must its government. Marx said that revolution would destroy the ruling classes and replace it with a Utopian society, one where everone is equal. *Civilisation* takes a different stand, whereby a revolution causes a change of government style, rather than a complete removal. As you become more advanced, you can instigate revolutions to transform from your oppressive Despotism, through Monarchy and Communism to a Democracy, where you can do mostly what you like, and people will be happy because they will feel that you are in power because they want you there. The sociological side of this game is just one of its many brain-busting facades.



CU Jimmy, you have risen to become leader of the Romans. May your reign be long and prosperous. The Romans have knowledge of Irrigation, Mining, Alphabet, Pottery, and Roads.

buyers guide

release date	August 1992
genre:	Strategy/God Game
team:	Sid Meier
controls:	Mouse/Keys
numbers of disks:	4
number of players:	1
hard disk installable:	Yes
memory:	1Mb

MICROPROSE £29.99

Pure strategy for the non-purists...

GRAPHICS	72%
SOUND	70%
LASTABILITY	89%
PLAYABILITY	88%

OVERALL 86%

FROM THE PROGRAMMERS WHO GAVE YOU RAINBOW ISLANDS...

FIRE & ICE

THE DARING ADVENTURES OF COOL COYOTE







AMIGA VERSION SHOWN

• With all the levels, power-ups, bonuses, features, hidden secrets and multiples that you'd expect from award-winning Graftgold •

"BEAUTIFUL AND EVOCATIVE...STANDS UP PROUD AMONGST THE BEST OF PLATFORM GAMES." Amiga Power

"THE BEST PLATFORMER SINCE RAINBOW ISLANDS." The One 92%

"A MUST BUY." 90% CU Amiga Screenstar

Renegade

GRAFT-GOLD Creative Software

C1, Metropolitan Wharf, Wapping Wall, London E1 9SS. Published by Renegade.

Not content with having a cartoon animation and sporting sim on release this month, Entertainment International have their eyes set further afield. Steve Keen takes a step into space, deep space...

DEJA-VU

It's been almost a year since Entertainment International released their computer version of the Traveller board game and it's due to that games' success that we now have the sequel in our hands. Fans of the first will be pleased to know that the sequel is actually 10 times bigger and incorporates 127 new planets for adventurers to explore. However, as Danny DeVitto said to Dolly Parton, size isn't everything!

Every planet your party of five chooses to visit is a hit and miss affair. Each one possesses its own quota of cities and all differ in their degree of advancement. Some planets will be way ahead in the technical achievement stakes, whilst others will only be able to provide you with a cloudy glass of water if you ask them nicely. It's up to you to glean what information you can from the inhabitants and acquire as many objects, gadgets and weaponry as you'll need during your mission.

THE PLOT SLOT

OK, so far so good, but why are you chasing shadows the length and breadth of the galaxy? As it happens you and your party are getting some much needed R&R after the Zhodani incident on the planet Rhylanor. Rhylanor is a densely populated world famous for its intriguing high tech artifacts and gigantic mechanical monoliths. The constructions have long since been deserted by an advanced civilisation wiped out in an apocalyptic war thousands of years ago. During a tour of one of the ancient structures it erupts and you capture, on your video camera, the cataclysmic scene as the gigantic earthquake suddenly kicks one of the monstrous machines to life. As the entire site shakes and trembles huge streams of toxic slime begin to spew out of the machines' pipes and trundle down the mountainside destroying everything in its path. The area is immediately evacuated and the authorities offer a massive reward for anyone who can stop the advancement of the gunge and save the planet. Upon closer examination of your tape you notice the silhouettes of two characters running from the site just after the initial explosion. So, taking up the challenge with four other characters, you begin to track these beings down and solve the riddle of the ancients.

The biggest problem with RPGs of this type and size are that they're not easily accessible. What with every game trying to out boast the competitors with incredible claims of detail, statistical tables and itineraries they often forget that the whole point of putting the game out in the first place is to have fun. Wading through scores of introduction scenes or fiddling with the level of speed that a storm trooper can tie up a loose boot lace in a tight corner is not really what it's all about. So, with *Megatraveller 2* a group of preset characters come as standard which lets you get straight into the action. Great! Now your only problem is finding some.

VIEWING PROBLEMS

Most of the game is viewed from above whichever planet you've surfaced on. Whereas in the original your party is reduced to a single representative blob, here they've splurged and invested in five, recognisable by colours that correspond to the character boxes at the top of the screen. The screen can be zoomed in and out of, but the closest you'll ever get is a bird's-eye view from about 150 feet up. Planetary travel is achieved by walking or by one of the numerous forms of transport available for rent. Two of these are the ATV, a fast tracked car restricted to ground travel and the Grav version that can handle the most treacherous conditions as it actually hovers above the earth's surface. By using these motorised modes of transport you'll be able to cover the cities faster, enabling you to visit all the shops, buildings and NPCs needed for you to collect clues and equipment. There are at least 23 of these locations including hyper-markets, banks, airports and taverns. If you want to travel to another planet you'll have to buy your own ship or, more viable at

MEGATRAVELLER 2
QUEST FOR THE ANCIENTS



Such is the size of the sprawling play area, that it is wise to travel from area to area using one of the many forms of transport. These include All-Terrain Vehicles, and an anti-gravity version which can skim over any ground-based obstacles.

MEGATRAVELLER 2
QUEST FOR THE ANCIENTS

the beginning, buy a ticket for a space shuttle. Although everything costs a lot, extra credits can be picked up pretty easily and give rise to the games many sub plots. By interrogating the populous you soon find out where a shady deal or two can be made and most people have something for sale that can be resold for a higher price. The only difficulty is finding the elements necessary for pairing the two off with each other.

When arriving on a strange planet you'll probably have your weapons confiscated, but a quick visit to Mr Migginin's International Arms emporium will soon set you right and you can pick up an awesome array of weapons on most worlds. Once you've become equipped you can check in at the local police station for a spot of bounty hunting and see what bargains are laying around the neighbouring planets. By tracking them down and collecting their dog tags the police force will pay you handsomely.

Combat has been vastly improved from the first game, but it's still flawed. To fire your weapons at a victim you must first go into a menu and place the cursor over all the targets you want to shoot, then press attack. You then sit back and watch the outcome. However, if one of the enemy should walk off the screen after targeting you won't be able to see what happens to him until it's too late and a huge pile of purple slush stands where one or more of your companions used to be.

SPACE RACE Until you've amassed around 3 million credits you're going to have to take a buss, a space bus. However, if you do succeed in getting the readies you'll have no end of intergalactic weaponry to choose from and strap to it's roof rack. The best to buy are any lasers that come in threes, as they give maximum fire power for all those space battles.

HARD ON THE EYES

Control over the characters is by mouse and the combination of small sprites and scrappy graphics incorporated in the action screens produce a lot of frustrating mistakes. Buildings are particularly hard to enter and you are often left wandering around outside just trying to find an entrance. Once inside the scene switches to the one on one representations presented in most RPGs when coming into close contact with an interactive character. These can be very scrappy affairs as a lot of the sprites are used more than once for different locations and in some instances, when a text entry is required, the computer doesn't bother to wipe out the previous text shown and just writes over the top of it making it very difficult to read. Another instance of frustrating game play is when trying to talk to an NPC. It's necessary to corner them and bunch them in before they'll speak to you. When travelling in the car you have to go through the palaver of parking it, getting all the players out and then chasing the NPC just to see if he can be talked to, of which invariably he can't, and you simply wasted your time and have to pile back in again.

Megatraveller 2 is big, and if you ask me it's too big. Although there's literally thousands of things to do, tasks to perform and sub missions to negotiate, it just didn't grab me. I need more to fuel my enthusiasm that a few miniscule sprites and the occasional flash of laser fire. However, I'd recommend it to board game fans as it definitely brings their game to life and is superior to the first in the series. Some nice touches, like characters volunteering to perform tasks they have a particular aptitude for without being asked, add a certain amount of character, but RPGs of this detail tend lose out on playability – and *Megatraveller 2* is no exception..

buyers guide

release date	July 1992
genre:	RPG
team:	Paragon
controls:	M,J,K
numbers of disks:	3
number of players:	1
hard disk installable:	Yes
memory:	512k

EMPIRE £29.99

"Detailed, but ultimately not all it could be..."

GRAPHICS	69%
SOUND	60%
LASTABILITY	70%
PLAYABILITY	69%

OVERALL 70%

All the action is viewed from a distant bird's-eye view, with the characters wandering across the eight-way-scrolling area. However, for more detail, a zoom mode is available.

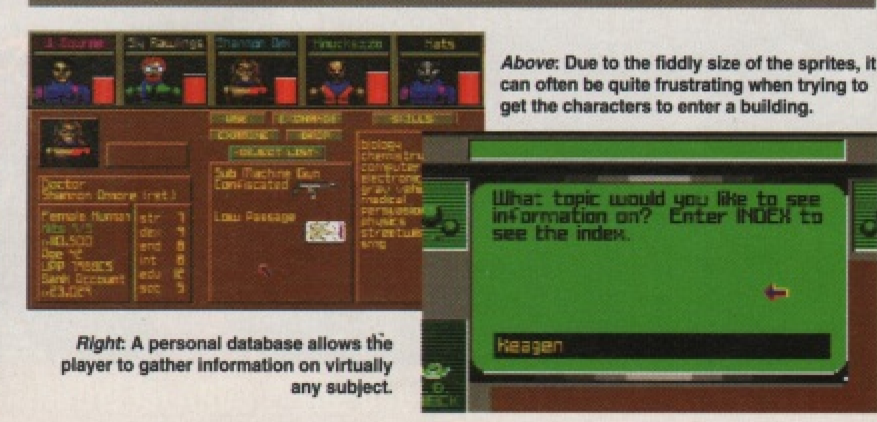
Left: Every planet features a series of places to visit – whether it's an armoury or a police station. The former is essential as your weapons will probably be confiscated when you land, and the latter often has rewards for the capture of escaped felons – anyone for a spot of Bounty Hunting?



The game is extremely easy to control, and all actions are made via a series of icons to the right-hand-side of the screen.



Above: Due to the fiddly size of the sprites, it can often be quite frustrating when trying to get the characters to enter a building.



Right: A personal database allows the player to gather information on virtually any subject.

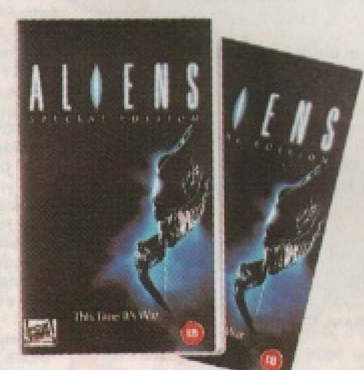
MEGATRAVELLER 2 COMPETITION

15 ALIENS – SPECIAL EDITION VIDEOS AND 20 COPIES OF *MEGATRAVELLER 2* ARE UP FOR GRABS

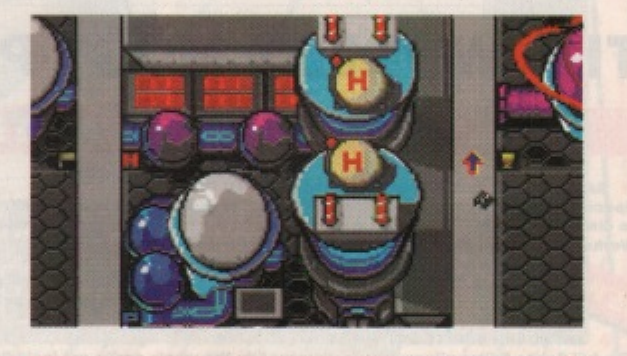
Thanks to those luvverly **people at Entertainment International, we've got a stack of prizes for our latest compo. On offer are 15 copies of the recently-released Aliens – The Special Edition video (featuring an extra 19 minutes of never-before-seen blood-splattering action) plus 20 copies of** *Megatraveller 2*. **To get your mitts on one of these super giveaways, all you have to do is answer the three incredibly simple multiple-choice questions printed to the right of the page. As usual, first out of the hat wins.**

Please specify which prize you'd like to receive.

Because of the nature of the film's content, though, anybody under the age of eighteen must choose the game.



RULES 1. The competition is not open to employees of EMAP or Entertainment International or their relations.
2. No correspondence shall be entered into.
3. Closing date for entries is September 30th, 1992
4. The editor's decision is final.



THE QUESTIONS

1. Name the female star of Alien, Aliens and Alien3?

A. Bonnie Langford
B. Barbara Windsor
C. Sigourney Weaver

2. What do Aliens have for blood?

A. Hot chocolate
B. Acid
C. Bovril

3. What was the name of Ripley's Cat in the first film?

A. Jones
B. Timmy
C. Come here, you B*ard**

HOW TO ENTER Entries on a postcard please (it simply ruins Steve Merrett's new manicure undoing all those nasty envelopes), and send them to: I WANNA BE AN ALIEN, CU AMIGA, Priory Court, 30-32 Farringdon Lane, Farringdon, London, EC1R 3AU. All entries must arrive before 30th September, 1992. Any that fail to make it before then will be filed under 'B' for Bin...

Graham Taylor's SOCCER CHALLENGE

With Graham Taylor cast as the new villain of English football, . Tony Dillon joins him on the bench at the sidelines of Krisalis' new licence.

FAMILIAR TERRITORY

There isn't a huge amount that can be said about football management games that hasn't been said already. Krisalis' second star licence in as many months claims to bring the genre bang up to date – but, then again, don't they all. I don't wish to sound too skeptical, but the genre has been flogged to death over the years and the number of management games in my software library far exceeds any other type of game bar the ubiquitous shoot 'em up. Each new game purports to bring the genre bang up to date with added depths and areas of realism, and more options to choose from than ever before. The strange thing is, Krisalis look set to actually pull off such boastful claims and have really pulled out all the stops on this one.

NOTHING PERSONAL

For the most part, management games involve juggling a whole wad of figures and statistics in an effort to produce the perfect team. The basic aim is to increase your team's overall rating as much as possible so that you can cream the opposition! Even when management games started substituting numbers behind a glossy veneer of terms and ratings it was still a question of numbers. There was never much in the way of personality to either the teams or your position. Games like *Tracksuit Manager* and U.S. Gold's *The Manager* went some way to solving the problem, by adding more random touches such as substitutions and the like, but things still appeared quite impersonal. In *Graham Taylor's Soccer Challenge* you are treated as a real person and expected to treat your players as such, too. Once you've selected your squad, trained the hell out of them and transferred all your crap players, the game really begins to shine.

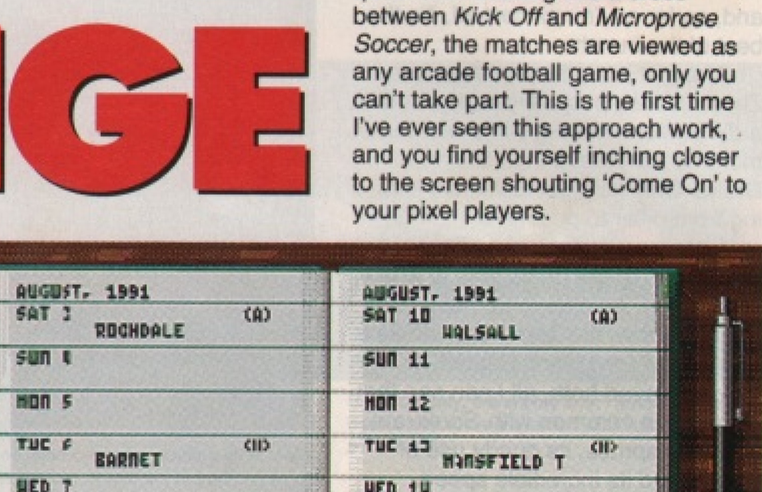
For a start, you have a lot more personal contact with your team. At the end of a game, you can give a little speech, ranging from a few choice words to a pat on the back, and there's even the need to comment on games at hastily-convened press conferences. Players sustain real injuries, ranging from pulled muscles and broken legs, and not just a universal bruise which keeps them out of the game for 'X' number of weeks.

The icon-driven options are all readily accessible and smartly designed, and enable quite complex actions to be carried out at the click of a mouse button. Players come with numerous statistics detailing their playing abilities, all of which can be changed by implementing the right sort of training for the right player. The transfer market is positively bulging with players waiting to be signed up and prolonged success means you start raking in the gate money to be able to afford these budding superstars.

EDGE OF THE SEAT STUFF

All the main options come as standard in these type of games, in much the same way that you would expect a MIDI sequencer to be able to quantise. So don't expect anything you haven't seen before, in that respect. The real clincher comes when matchday approaches as this is the one area where the player has little control and can only sit back and watch as his or her team either cream the opposition or have ten goals scored against them. And it's here that *GTSC* really excells.

Rather than fill your head with numbers, or try to fool you with text, Teque London have tried to show a complete match being played. Anyone who remembers *Football Manager 2* will cringe at this point, but believe me, it works quite well. Looking like a cross between *Kick Off* and *Microprose Soccer*, the matches are viewed as any arcade football game, only you can't take part. This is the first time I've ever seen this approach work, and you find yourself inching closer to the screen shouting 'Come On' to your pixel players.



The Manager's diary. Here you set up friendly matches and training schedules by clicking on one of the three buttons at the bottom of the screen, and then clicking on a date in the diary.



The match itself. It looks good, it sounds good and has atmosphere. The only thing lacking is the fact you can't play it.



Overall, *GTSC* is one of the best soccer management games I've played and certainly beats the like of US Gold's *The Manager* and even Anco's *Player Manager*. Having said that, the game adds absolutely nothing new to the genre except for the full-match sequences. The national league seems at odds with Graham Taylor's international stature and it seems out of place for him to be tinkering away with the transfer market and domestic campaigns when he should be out there batting (kicking?) for England.

TWO FOR THE PRICE OF ONE When you buy Soccer Challenge, you're actually getting a game of two halves in the true sense. The two disks in the package contain two completely different management games. One National and one International. However, you can't play the second one without finishing the first by ending a season in one of the top five positions in the Premier League. You are then given a password allowing you to become manager of England – and there are some who would say that you could do a better job than the present one! At last, a footy management game with a real purpose...

buyers guide

release date	**July 1992**
genre:	**Management**
team:	**Teque London**
controls:	**Mouse**
numbers of disks:	**2**
number of players:	**1**
hard disk installable:	**No**
memory:	**Any Machine**

KRISALIS £25.99

'Great game for the less numerically minded...'

GRAPHICS	82%
SOUND	68%
LASTABILITY	80%
PLAYABILITY	81%

OVERALL 81%

ZOOL

Tony Dillon checks out Gremlin's self-proclaimed *Sonic* beater, to see if it lives up to such claims...

CHEERS

We have a lot to thank the likes of Nintendo and Sega for. Although we may never experience Mario or Sonic on the Amiga, they have opened the way for a stream of highly-playable clones, such as Millennium's *Robocod* or Ocean's *The Addams Family*. The latest of these console-esque platform extravaganzas is *Zool – The Ninja Of The Nth Dimension*, and, as far as I'm concerned, it's the best of the bunch.

The plot is so thin it makes Lena Zaveroni look positively porky. Zool is a dimension-jumping Ninja with more tricks up his sleeve than Simon Drake. Only he's got lost while leaping from pillar to post (in a metaphysical sense) and now needs a little help to get back. This is where you step in. As everyone must already know, the game is billed as a '*Sonic The Hedgehog* Beater'. Having played both, all I can see that *Zool* has in common with *Sonic* are the huge sprites, its guady use of colour, and its incredible speed.

There are seven dimensions to work through, each made up of three enormous levels. Each level is basically a two-dimensional maze, and your task is to locate the exit which, while normally accepted to be to the far right of the level, is never quite where you expect it to be. Each level is built up from three component parts: platforms, bonuses, and the enemy. At least, that's it in a wildly underestimated sense, as there are countless different kinds of each. Platforms vary between solid, moving, collapsible, deadly spike or obstacle-coated ones. Bonuses can also be anything from small pieces of fruit which top up your score, to magical bonuses which arm our ant-like hero with assorted magical capabilities.

VARIED INHABITANTS

Each level features an individual set of monsters and bonuses, as well as world-specific elements which either help or hinder. In Music World, for instance, there's a giant piano keyboard which tinkles away for bonus points when it is run across. In addition, in Fruit World, open baked bean cans serve as handy springboards, whereas in Tool World, drill bits can be used as sturdy platforms, provided they're not spinning at the time, otherwise you're likely to lose a leg.



Zool is by no means defenceless, and can fend off the unwanted attentions of the enemy in a number of ways. One of the nicest, though, sees him slashing his foes with a huge Samurai-style blade.



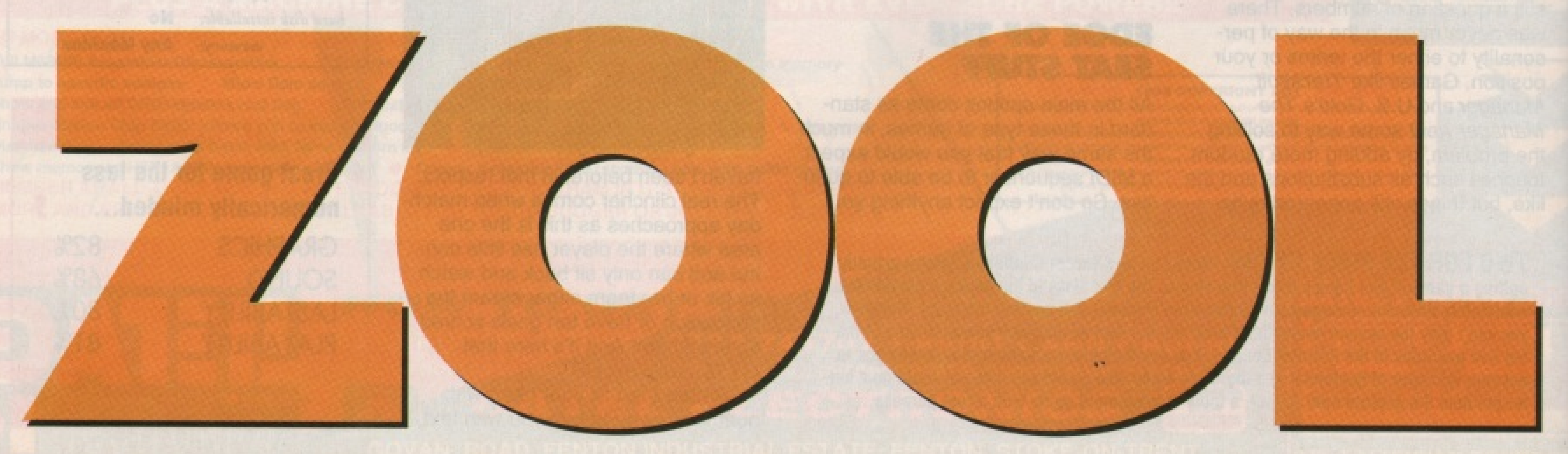
As our 'Space Ninja' explores the many Worlds, he will come across level-specific platforms to aid him in his search for the exit. For instance, in Tool World, the revolving drills can be used as a conveyor belt.

Zool himself is probably the most amazing character ever to grace an Amiga monitor. He may look sweet, but underneath that innocent exterior lies the heart of a killing machine, and an extremely capable one at that. Zool can pull off so many different moves that you'd think the controls would involve serious amounts of physical dexterity. For example, from a standing start, he can jump, run, punch, perform a spinning kick, or send enemies flying with a mean sliding tackle. He can also cling onto vertical walls and perform four different magic spells. It may sound like a lot for a platform game, but the numbers and speed of the enemy make every move vital, and they actually prove very instinctive to use.

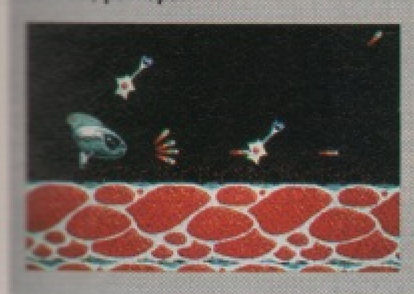
EDUCATING ZOOL

All the moves are accessed via the joystick, and, complicated though it may initially seem, they can be mastered with a little practice. The two most powerful moves you have at your disposal other than your magic cannon (which should only be used rarely due to its limited resources) are the spinning jump and the sliding kick. The spinning leap, performed by depressing the firebutton while Zool is airborne, causes a blade to extend from either side of him to kill anything he touches. Equally powerful is the sliding tackle which makes any creatures, it comes across lose their footing and fall into oblivion.

Zool's magic extends way beyond mere smart bombs, although one of the four spells he can perform is a firework to clear the screen of bad guys. On top of this, he can also



IT'S NOT ALL LEAPING AROUND There are seven worlds for Zool to conquer. Sweet World is where Bertie Bassett goes on the rampage with a bazooka; Music World is where Mantovani and Metallica stand side by side; Tool World is populated by carnivorous wingnuts. There's also Fruit And Veg World which gives brussel sprouts their chance to get their own back. Fun Fair world promises to turn your stomach, and Toy World shows what would happen were there ever a revolution in Hamleys. All of these levels have Zool in battle armour, leaping about all over the place, kicking the stuffing out of everyone. You may have noticed that I've only mentioned six worlds. The last, Shoot 'Em Up World, is actually a scrolling blast, in the vein of every shoot 'em up since *Scramble*, and is big, hard and very fast. How much more variety can you have? A text adventure as well, perhaps?



cast three temporary spells. The first lets him jump higher than normal, whilst another offers temporary invincibility. Most impressively, though, you can also call in some extra firepower in the form of Zool –The Ninja Of The Nth Dimension. Hang on, there can't be two of them, can there? Well, yes, but only for a short while. This duplicate of our hero mirrors the moves you make exactly and effectively doubles your firepower. The spells are cycled with the space bar and selected by holding down the firebutton, which causes the dome-topped one to kneel for a moment and a rocket to fly upwards before exploding into action.

SPELL IT OUT

Each spell has a limited amount of uses, which can be extended by collecting the bonuses hidden around the levels, and believe me, they can be anywhere – from hidden rooms to within key enemies.

The basis of *Zool* is fun, and everything about the game shows that. From the zany – and that isn't a word I use lightly – soundtrack, which is full of light-hearted and unnecessary samples of snoring, cocks crowing and breaking glass, to Zool's rich and humorous personality. It's amazing how much feeling you can get from a small bunch of sticks held together by a large, blinking black rugby ball.

Zool is one of the most playable games ever released – mind you, that's hardly surprisng when you consider that the team behind *Venus The Flytrap* and *Switchblade II* are the coders of the project. In fact, the game is so playable you wonder why all games aren't this good.

Admittedly, the controls take a little getting used to – although you can survive simply by mastering the basic run and jumping skills – but it's incredible how instinctive they become after a little time, and you find yourself fully in control of one of the most versatile characters this side of a Magnetic Scrolls adventure. I can't say it really beats *Sonic* outright and *The Addams Family* is slightly more polished in appearance and control. However, it is definitely one of the best platform games released on the Amiga, and you'd be absolutely out of your tree to miss it.



Dotted throughout the scrolling play area are little caches of 'Ninja Magic'. When collected, these can be used at any time to eradicate the enemy or even summon a spectral second Zool sprite.



Sweeties World is a strange place which is fully of unjolly Jelly Tots and equally awaful Allsorts. However, bonuses galore adorn this level, allowing Zool to collect thousands of points.



Dotted liberally through the game are small inconspicuous-looking switches. These act as starting points, and save our hero from starting from the beginning when a life is lost.







Unfortunately, the enemy aren't afraid to fight back – and some are armed with energy-sapping missile.

buyers guide

release date	**July 1992**
genre:	**Platform**
team:	**In-House**
controls:	**Joystick**
numbers of disks:	**2**
number of players:	**1**
hard disk installable:	**No**
memory:	**Any machine**

GREMLIN £25.99

"Excellent console-type platform fun..."

GRAPHICS	91%
SOUND	89%
LASTABILITY	85%
PLAYABILITY	93%

OVERALL 91%



IN TO BAT...

There was a time when fancy TV-style introductory scenes would fair whet a game-player's appetite. Now, however, it takes far more to get your average joystick abuser drooling. Cinemaware's *TV Sports* series are a fine example of this, with both *Basketball* and *Football* selling in droves thanks to their stunning appearance. Everything the Amiga user could want was featured in these games: incredible graphics, sampled sound to add to the glitzy proceedings, and realistic animation. What more could anyone want? Well, playability would be nice, as the Cinemaware games lost out in this department.

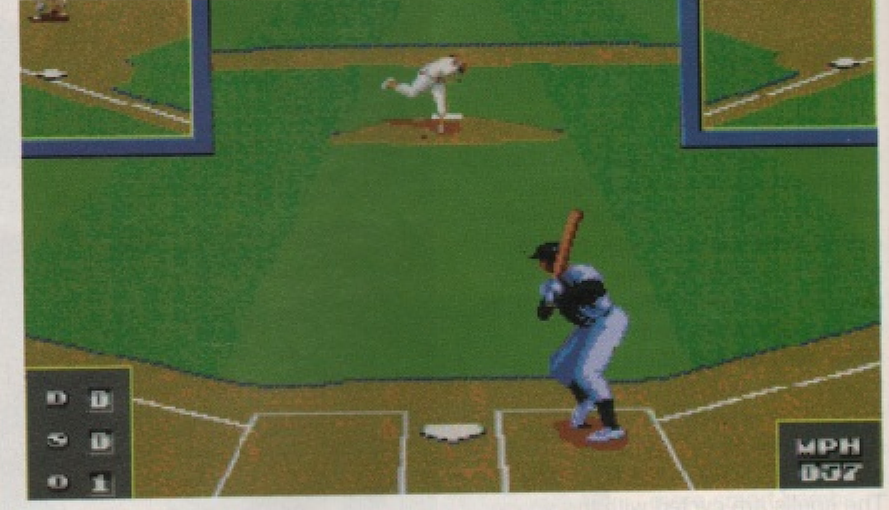
With *Baseball*, however, things have taken a step in the right direction and whilst the familiar presentation (complete with the obligatory commentator) doesn't seem quite so great as it once did, Cinemaware are obviously aware of this and have tightened up the gameplay accordingly. Maybe Baseball is more suited to the Cinemaware treatment but whatever the reason, this knocks *RBI* out of the park – and not since the C64 version of *Hardball* have I played a Baseball game so much.

OPTIONAL EXTRAS

Having picked your way through the plethora of typically accurate options and menu screens where your team can be shaped and moulded for optimum efficiency, all that stands between you and first base is a change of park – although this has no real bearing on the game. Following that, it's time to spit on the ground and get ready to knock the ball into next week. As with *Basketball* and *Football*, *TV Sports Baseball* is a doddle to pick up and play. Pitching is simply a matter of setting the speed and position of your throw, whilst batting requires the player to position the batter and swing the bat in the vain hope of hitting the ball. However, as with so many Baseball games, this proves easier said than done and is initially very frustrating – perhaps a practice option against a computer-controlled pitcher would have been an idea? Also, fielding is just a matter of guiding the nearest player to where the ball is heading before lobbing it back towards the base areas. It is this simplicity, though, that makes *Baseball* such a dream to play, but that's not to say that it isn't without a few problems.

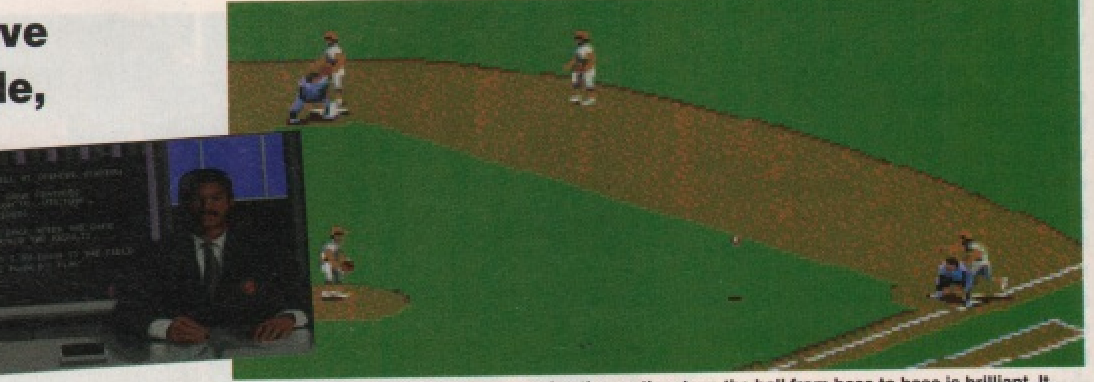
STRUCK OUT

My biggest gripe lies with players currently on bases. As soon as the batter has whacked the ball, they all dash off to the next base – no problem there – but if the ball shoots off for a foul, get-

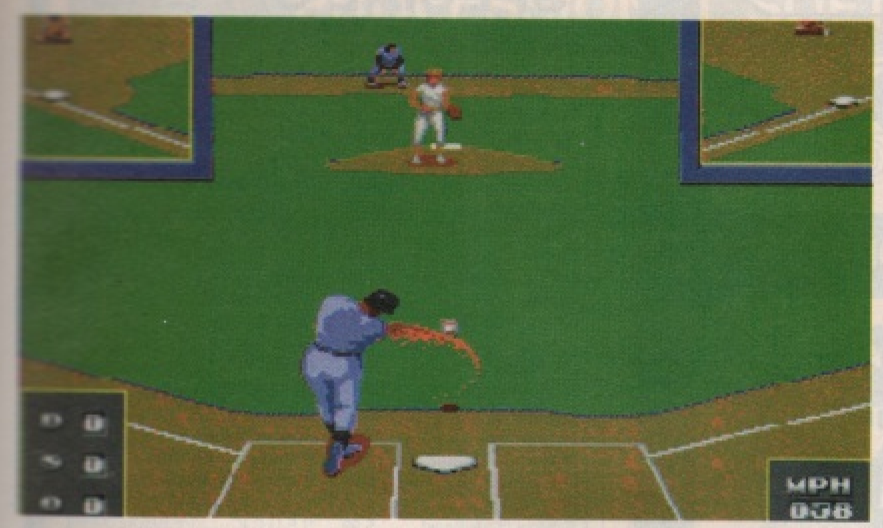


TV SPORTS

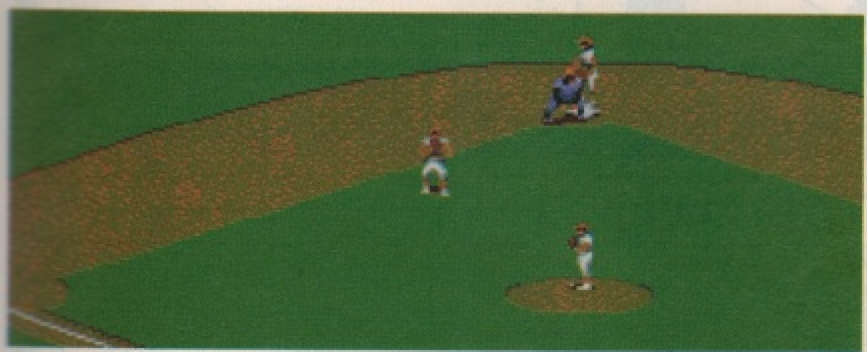
Would-be Pittsburgh Pirate, Steve Merrett, pulls his cap to one side, spits on the ground (nothing new there), and prepares to steal base with Mindscape's first Cinemaware release...

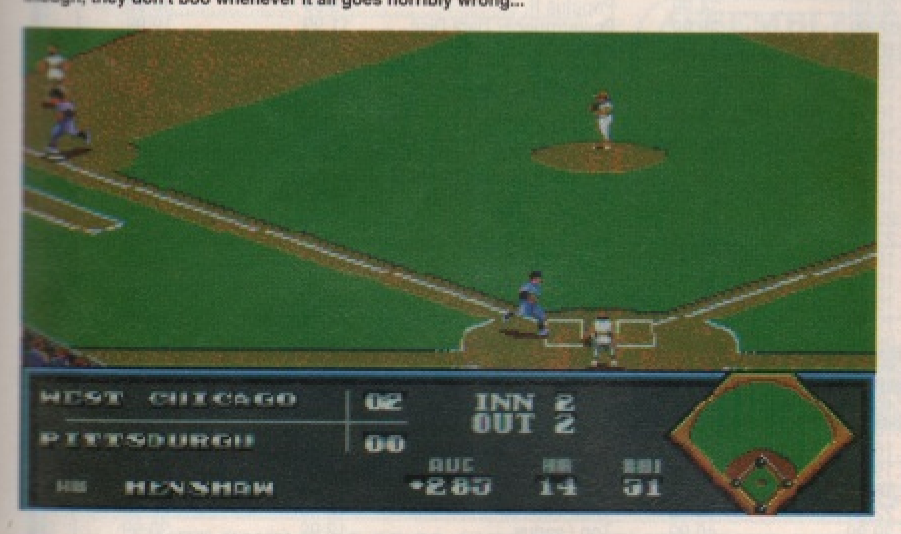


As the fielders retrieve the ball, the animation as they toss the ball from base to base is brilliant. It really looks as if they are giving it their all, and the sound effects are equally good.



As with most Baseball games, hitting the ball can prove extremely difficult. However, after a while both positioning and timing become fairly instinctive.


Whenever a team has the third base occupied, as the next batter steps up to take a swing, a small jingle sounds to indicate the importance of the shot. Little touches like this add to the 'glitzy' atmosphere of the game, and the roar of the crowd when a Home Run is hit is brilliant. Unfortunately, though, they don't boo whenever it all goes horribly wrong...



BABE IN ARMS Baseball has thrown up a series of legendary players in its time, ranging from Joe DeMaggio to Walter Johnson. Perhaps the most famous of all, though, is Babe Ruth. Famed for his ability to hit home runs, Ruth was a massive character both on field and off. If George best was the fast-living face of Soccer, then Babe preceded and outdid Best's antics both in years and in scale. Ruth led an extravagant lifestyle and a far from healthy one! Oddly enough for a sportsman, Ruth would often wolf down fifteen-egg omelettes, or would chew his way through six hotdogs during a film or match. 'The Babe' was also a fan of high living and was similarly renowned for his flash cars, fancy clothes and love of night clubs. The latter 'hobby' won him a legion of female 'companions' and between his two marriages, Ruth's reputation as a womaniser spread rapidly, with tales of him satisfying up to three women in a night regularly circulating (what's so unusual about that? Dep Ed). However, busy as his social life obviously was, it never seemed to affect his prowess on field. He could hit a ball like no other player and it is also listed that he hit a ball further than any other man. On playing Chattanooga's Engel Stadium, Ruth hit a ball which landed in a coal truck heading west. By the time the truck had finished its journey, the ball was picked up in St. Louis, Missouri – a massive 2000 mile journey in all!

ting them back to their previous base is seemingly impossible and often results in the entire team being thrown out. Additionally, in the same vein, whenever the player hits the ball behind them for a foul, it is counted as a 'Strike' – something I have never encountered before. On a more positive note, though, *TV Sports Baseball* actually goes some way to capturing the excitement the real sport generates. There's a real sense of achievement on cracking a Home Run and seeing your player stroll from base to base to rack up points, and the disappointment of muffing an all-important shots is similarly deflating.

ATMOSPHERIC

This atmosphere is further aided by the assorted effects which accompany the game. For instance, whenever a player is currently on third base, a short jingle plays which leads to a fanfare when the player reaches fourth (although this sounded rather like the 'Sale Of The Century' introductory tune). In terms of graphics and sound, it is very hard to criticise *Baseball*. The pitching and batting sprites are large and well animated, and whilst the fielders are represented by minuscule sprites, these are equally well done and throw the ball about with real gusto.

HOME RUN

If it wasn't for the rather dodgy play faults and the computer's seemingly infallible skills, *TV Sports Baseball* would be a genuine sports sim classic. However, whilst it is extremely playable, these little niggles tend to grate after a while and mar an otherwise excellent simulation. That said, though, this Cinemaware game far outstrips its plentiful competition in terms of quality, realism and atmosphere. Accolade's *Hardball* used to reign supreme as far as I was concerned, but, despite its shortcomings, Mindscape's first Cinemaware release is the new Joe DeMaggio on the block.

buyers guide

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team:	Cinemaware
controls:	Joystick
numbers of disks:	2
number of players:	3
hard disk installable:	No
memory:	Any Machine

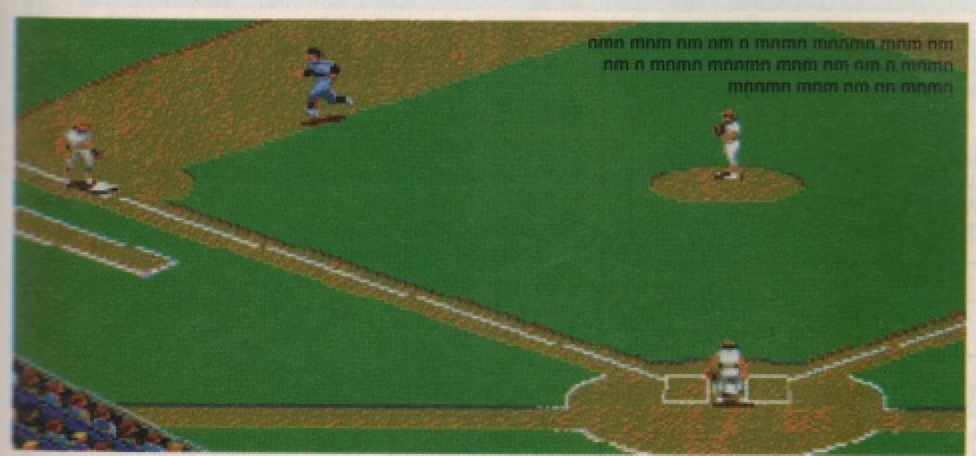
MINDSCAPE £25.95

Flawed, but still the best of its kind...

GRAPHICS	83%
SOUND	72%
LASTABILITY	71%
PLAYABILITY	84%

OVERALL 80%

BASEBALL



Right: Although there are a number of stadiums to play in, the only real changes are in the graphics department.



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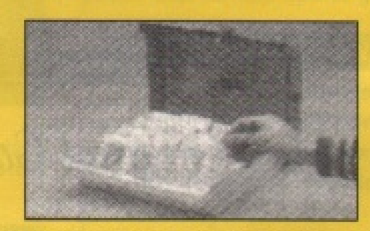
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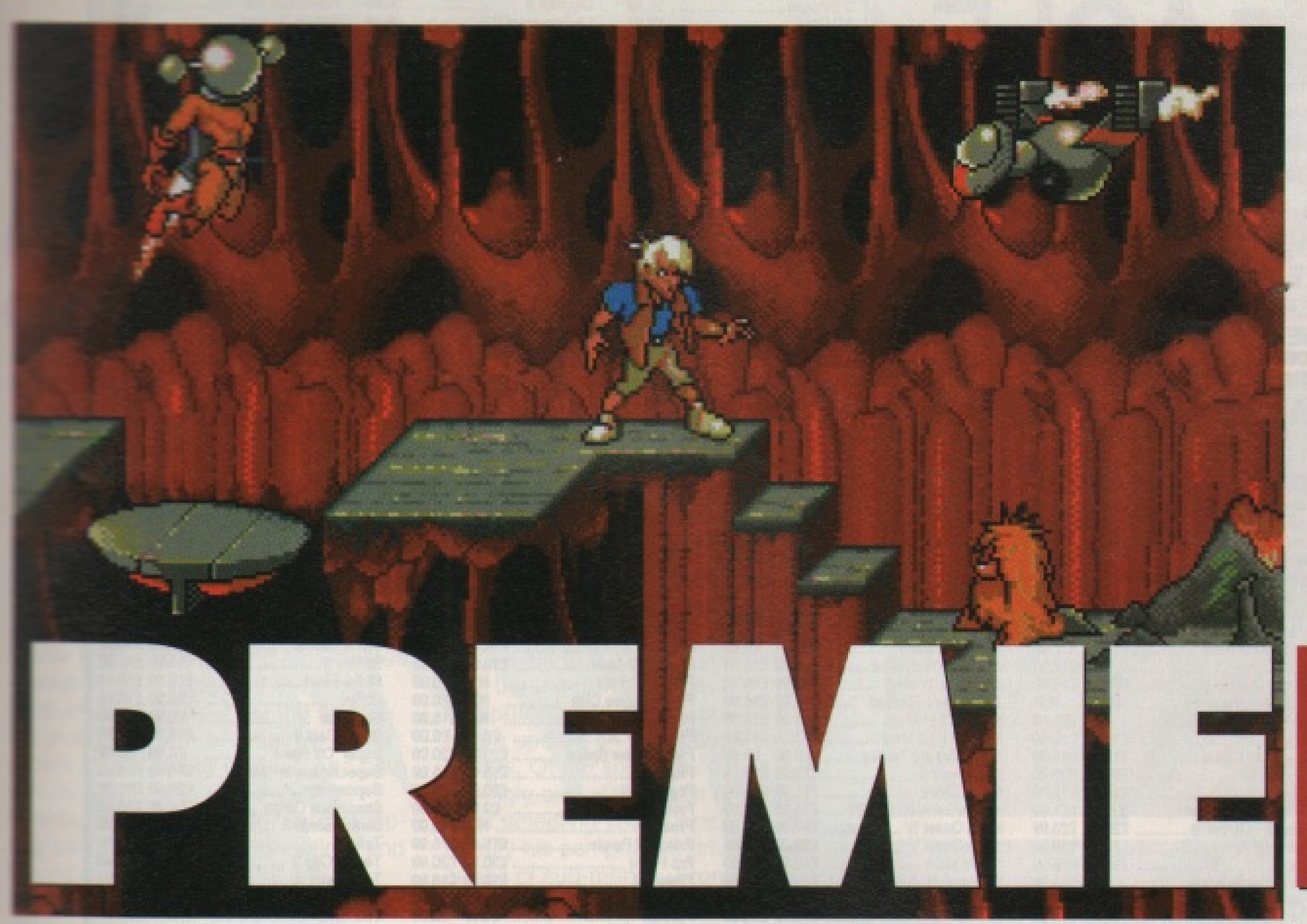
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PREMIERE

Core Design give Tony Dillon an eagerly-awaited chance to break into films...

ROLL 'EM

Core Design are the sort of software house who always seem to go one better. After raising the standards of flight sims, graphic adventures, and racing games, they are now out to do the same for the platform market with *Premiere*. In this already well-publicised game, you have to help our hero, one Clutch Cable, retrieve rolls of film which have been stolen from his editing board. However, the film is being premiered the next day, so speed is of the essence.

The stolen cans have been scattered around a series of six film sets. Whilst trying to avoid interrupting the work on each set, Clutch must work his way through the different scenarios each set contains – which range from the Wild West through to Science Fiction, B-Movies, Horror, and a Keystone Cops-style black and white comedy. In addition, dotted around the levels are the various enemies, who fit in perfectly with the current setting. For example, the Keystone Cops are depicted as black and white sprites to match the greyscaled backdrop, and the monsters from B-Movie land move just as convincingly as in the flicks (i.e. not very!).

QUIET ON THE SET

The mix of levels adds variety to the rather simplistic platform-based gameplay. The levels are huge by anyone's standards. Standing eight screens by eight, there are effectively four layers to each screen. Each platform you walk along has two 'depths', one further 'into' the screen than the other. Moving between these allows Clutch to avoid the rampaging bad guys or move to other parts of the level via stairs or lifts. These serve to add to the maze-like elements of each level, but not as much as walking through one of the doors you frequently pass. Remember, this is a film set, not real life, so what would you expect to see if you walked through a door on a film set? The back of the set, of course, complete with struts and girders, which doubles the area of the current level.

GREEN WITH ENVY

Jerr O'Carroll is the sort of artist who makes you want to puke with jealousy. His Bluth training is clearly visible here, especially in Cartoon world, where an unfortunate slip will cause our hero to suddenly collapse like a concertina, before expanding back to normality. In general, the graphics and animation are among the best ever seen in a platform game. Characters interact properly with the backdrops, rather than just float about – excellent stuff indeed.

Playing *Premiere*, you begin to notice how stale most platform games are these days. Everywhere you go in the game, there are little touches of originality. Most impressive, though, are the end-of-level guardians. Core specifically wanted to move away from the 'shoot the big sprite' scenario, and what they have come up with is a more than welcome alternative. At the end of each level, you come across a 'different' challenge. In the Wild West, for example, you take part in a gunfight, whereas in Keystone you have to push a cart along a railway track as fast as possible, to avoid a pursuing train.

All in all, *Premiere* offers a new look at a well-worn idea. If platform games are your scene, then book your ticket for this opening night.





Clutch's weapons vary from level to level. For instance, in the Wild West World he is armed with dynamite, whilst this is consequently swapped for a futuristic raygun in Sci-Fi World.

Everything in *Premiere* is best treated as hostile, as contact with most of the obstacles and characters saps his already-limited energy supply.

buyers guide

release date	**Out Now**
genre:	**Platform**
team:	**8th Day**
controls:	**Joystick**
numbers of disks:	**2**
number of players:	**1**
hard disk installable:	**No**
memory:	**All Machines**

CORE DESIGN £25.99

"Dated idea, but carried out with originality..."

GRAPHICS	92%
SOUND	86%
LASTABILITY	84%
PLAYABILITY	83%

OVERALL 85%

INTERNATIONAL SPORTS CHALLENGE

Steve Keen aims for a gold medal with the first of the many forthcoming Olympic-based games to arrive...

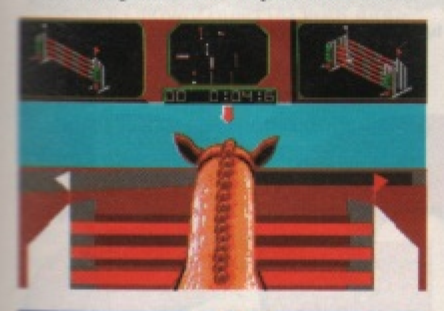
LICENSE TO PRINT...

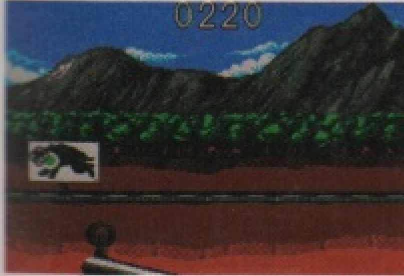
With the 1992 Summer Olympics just about underway you can expect a whole bunch of track and field-related games to be grasping at the pot of gold which accompanies the spectacle every four years. Empire's game caters for up to four players, and covers six sports with a choice of 21 events. These are diving, show jumping, swimming, cycling, shooting, and the marathon. The events are all played in succession in the the competition section, but can also be practised individually.

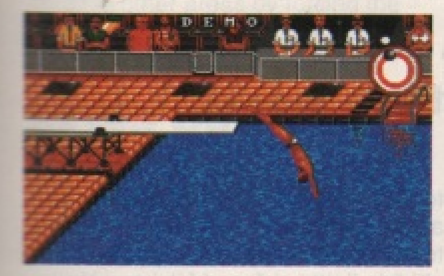
AT THE CORE

The marathon serves to tie all the events together and if you choose to play it, it will always be the first competition you'll embark on. Because of its twenty-six mile length, the race can be left to run whilst you get on with the other five sports, with the computer automatically cutting back for an update on the action between events. Of the six sports this is surprisingly one of the most enjoyable. After selecting your runner, you can modify his competitive drive from a series of sub-menus. From these you can also control how much effort he exerts, the speed at which he runs, the rhythm of his stride, and even which refreshment to take at the many strategically-placed watering holes. The track is preset and can be viewed by clicking on the map icon which shows everything from the gradients of hills to the whereabouts of the refreshment tents! All such details must be taken into account when adjusting your runner's stats. For example, running downhill requires much less effort to hold a position than running up it so, by dropping the effort bar, you can conserve your runner's energy – or you can take advantage of your opponent's slipstream.

Although this section is fun you won't have much trouble beating the computer players. The real challenge is sprinting against the clock and actually keeping in the race. Set too fast a pace and you could find yourself burnt out and out of the race.







The events use a mixture of bitmapped graphics and vectors – the latter of which are used in the cycling and equestrian events.

JOYSTICK BASHING

At first glance, you'll probably be dreading the inclusion of the waggling control method employed in previous games. Although the joystick-thrashing system hasn't been totally abandoned, it is nowhere near the level of exertion displayed in the past. The main offender is cycling which takes place inside a velodrome. There are four races to choose from and, as with all the events, you can compete in three different classes – National, International and World. The race is displayed using polygons and involves waggling your joystick as fast as possible to pass the finishing line before your opponent. All two-player games can be raced head-to-head with a friend or against the computer. The scrolling is smooth, but hardly exciting, and you'll be glad when it's over.

The diving section is another event which falls foul to bad gameplay. The idea is to pick four out of forty possible dives spread over three heights of board. Each dive possess a tariff showing the difficulty and, the harder the dive, the more points you'll get for the performance. To perform the aerobatics you must first press the firebutton when a red icon expands and follows another sphere's pattern as it spins around.

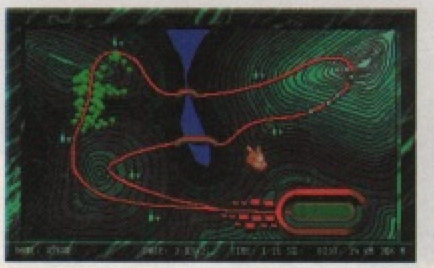
LAST STRAW

The only other event worth mentioning is the shooting – not because it's particularly good, but it's one of the few that offers any enjoyment. Once again, a choice of styles is offered including skeet, trap and boar. You have a limited amount of shots so each must be made to count. Control is via the mouse or joystick, but the latter can be very frustrating to use.

International Sports Challenge is a very poor affair. The graphics for the human sprites and the 3D sections are nothing special. Gameplay is especially limited and, although there are a good variety of events, they're all very samey. As a result, you're best advised to wait for the next sweaty sim to come along.



Cycling takes place over a large circuit, witht he computer-controlled opponent racing alongside you. Using his slipstream, you must bide your time before overtaking him to win the race.







SPORTS MASTERS The first Olympic events can be traced back as far as the ninth century. Women were not only forbidden to compete, they weren't even allowed to watch the games. Even back then, the importance of winning was so strong that the games were soon corrupted by cities entering professional athletes and attempting to bribe judges. Things became so bad that the event was eventually banned in 393 AD by the emperor Theodosius and the original city where they had taken place, Olympia, was destroyed over the centuries by earthquakes, floods and marauding invaders.

buyers guide

release date	**July 1992**
genre:	**Sports sim**
team:	**Harlequin**
controls:	**Joystick/mouse**
numbers of disks:	**4**
number of players:	**1/4**
hard disk installable:	**No**
memory:	**All Machines**

EMPIRE £29.99

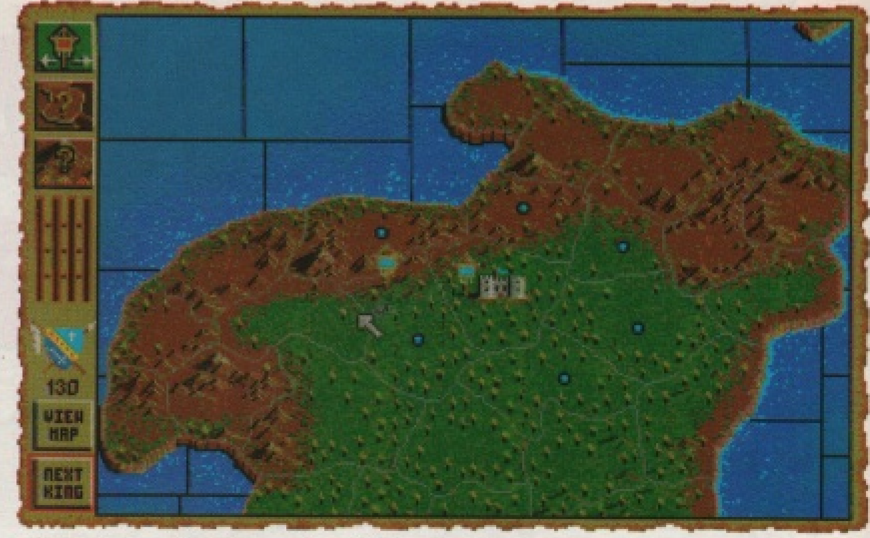
"Lacks any depth or feeling of the spectacle."

GRAPHICS	70%
SOUND	69%
LASTABILITY	56%
PLAYABILITY	63%

OVERALL 67%



Information on the surrounding landscape can be called up at any time, as can similar details of your assorted details.



Vikings offers a number of game options, including the ability to play 'gaining ground' against the computer-controlled player – it certainly beats *Defender Of The Crown*...



If you've ever fancied taking control of Cornwall, creating huge ugly carbunkles of buildings and kicking its current Duchy, Prince Charles, out – here's your chance.



Each strategic movement the player makes is taken in turns. Once they have made what they consider to be the right moves, the opposition then gets a go.

VIKINGS
FIELD OF CONQUEST

Eat, drink, and pillage in Krisalis's medieval strategy game. James Marlow gets down to some serious slaughter as he explores Digitek's world...

THE GOOD OL' DAYS

After a hard day at the office, there's nothing better than to come home, hang up the brolly and bowler, and settle down for a couple of hours of unbridalled slaughter and subjegation. And now, Digitek's strategic romp puts you in charge of your very own unruly mob of Barbarians, ready to take the Vikings on at their own roughy'n'ready game.

Up to six human or computer-controlled players can take part in what is best described as a medieval *Supremacy*. Each player assumes the role of a Lord in control of a small kingdom with up to twenty armies under their control. The overall aim is to become the king of medieval England, Scotland, Ireland and, curiously, a bit of Greenland.

The game is mouse-controlled and orders can be given with a couple of clicks of the button. The intuitive control system is so straightforward that you can get stuck in almost straight away, so there's no need to consult the manual.

HELP!

The game offers several different scenarios depending on the number of players taking part. If you're playing against another human opponent it's a race against time to build up a wealthy and expanding kingdom with which to fund a bigger and better army than the opposition. All things being equal, it's merely a question of strategically out-guessing the other players while keeping an eye out for the main chance.

A head-to-head against a computer opponent is a completely different affair. These are Viking invaders and they don't play by the same rules. Their aim is to gain wealth by conquest with no thought for the indiginous population. They act as barbarians, but it is up to you to outwit the computer player whilst abiding by the rules of fair play. You old softy!

The game begins slowly as you have to build up your embryonic empire from scratch. Driving your people too hard at this stage, however, will cause resentment and you'll find a revolt on your hands in no time at all. As a result, it's sometimes a tedious task to build up the infrastructure of your society before getting stuck into some serious bone-crushing – but the latter stages are

YOU'RE IN THE ARMY NOW

Once you've commissioned an army, a number of commands are available to a budding military dictator:

March – use this to move your troops around the map.

Forced March – if you haven't got enough movement points, then using this option will reduce the number of points needed and hopefully get your army on the move.

Exchange Troops and Items – this allows you to move soldiers and items between armies.

Make Camp and Rest – after a number of battles, it's best to let your troops make camp and get some much needed R&R.

Army Status – lists the morale, fatigue and composition of your army.



sufficiently rewarding to make it worthwhile. Thankfully for a game as large as this, there's also a save option.

ADVANCE

The game has a massive selection of options to chose from. For example, you may decide to search for ores in the mountains so that you can build castles, weapons and boats. Alternatively, you may think it prudent to save the money and deploy what few troops you already have. If blood-lust doesn't course through your veins, however, there's even the chance to slowly build up your kingdom and and make the world a better place to live in (ahhhhh!).

From the main screen, a flag-pole icon is used to give commands to your troops, a question mark to find out information about any particular area, and a mine icon to search for precious ore reserves. Below the three icons are four bars which represent how much food, wood, stone and iron you already have. Remember, without resources you cannot build anything! To the right of the bank of icons is the main map area. This shows the whereabouts of your opponent as well as detailing how much land has fallen under his control. Another map system is used for a close-up of the immediate playing area and its possible to rapidly scroll to other areas by forcing the mouse pointer to leave the screen in the required direction.

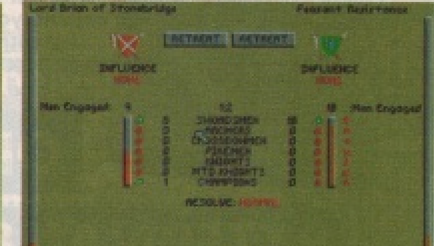
BRING OUT THE BANNER

The game's graphics are functional, with detailed maps and well-thought out icons. Each county is clearly defined and it's possible to tell at a glance what the state of play is at any given time. Each county which falls under your control assumes the colour of your clan and armies are represented by banners, so it's easy to work out what's going on. As time progresses, the need to develop more forts and even castles becomes imperative as the arms race goes on relentless. Very soon, you'll find a formidable arsenal under your control, and the screen bristling with your



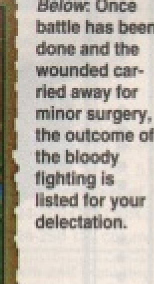
If, during a fight, it all starts to go horribly wrong, there's a retreat option which pulls all off your warriors out of the fray instantly – but only if they're taking a real kicking.







An assessment of a potential enemy's power can be gained before you decide to have a pop at them – this saves you from wandering into a small band of Peasants before being ripped apart by the seemingly-harmless band!



Below: Once battle has been done and the wounded carried away for minor surgery, the outcome of the bloody fighting is listed for your delectation.



troops.

Unfortunately, there's little in the way of in-game sound effects and this robs the game of some much needed atmosphere. Also, when rival armies clash, there's little on-screen action to watch – maybe a *Battle Chess*-style encounter of the opposing forces fighting it out would have been a good idea. Even some kind of stirring military tune or a pulsing beat ala *Powermonger* wouldn't have gone amiss.

There are five difficulty levels, ranging from easy to very high. These work to either limit the number of counties you need to win the game or increase them to such a ridiculous level that emerging victorious is nigh-on impossible.

APOCALYPSE NOW

Vikings will appeal to anyone who got a kick out of Virgin's *Supremacy*. Instead of planets to conquer, you're given counties and the basic raw materials of food, energy and ore have been replaced with food, iron and wood. The major difference between the two, is in the combat system. In *Supremacy* it was possible to pull your men out if things looked nasty, or send additional troops if necessary. In *Vikings*, the only option is to retreat if you're wildly outnumbered – a major flaw. Holding troops in reserve is a major tactical ploy, and to deny the player this cuts down the strategic worth of the game dramatically. That said, *Vikings* is a highly polished game and well worth a look.



buyers guide

release date	**August 1992**
genre:	**Strategy**
team:	**Digitek**
controls:	**Mouse**
numbers of disks:	**1**
number of players:	**1-6**
hard disk installable:	**No**
memory:	**Any Machine**

KRISALIS £25.99

"Addictive and highly-enjoyable battle sim..."

GRAPHICS	82%
SOUND	10%
LASTABILITY	87%
PLAYABILITY	90%

OVERALL 87%

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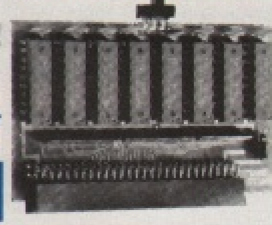
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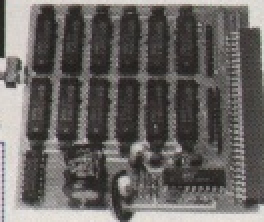
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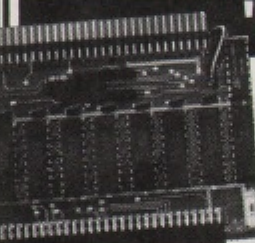
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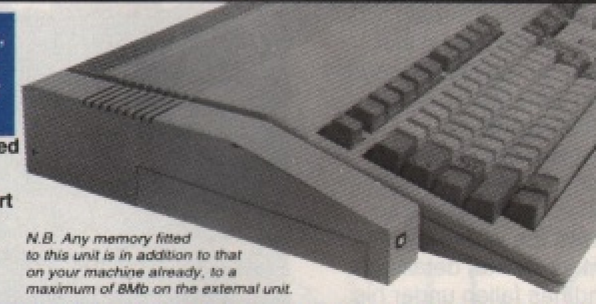
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SUPER TETRIS

Microprose have followed up one of the world's best-selling games. Tony Dillon sees how it compares...

SIMPLE, BUT FUN

Do I really have to explain to you how *Tetris* works? The game has sold so many copies I reckon people who don't actually own a computer or console bought it anyway so that they didn't feel left out. In fact, the manual claims the game (which involves manipulating small shapes composed of four squares and slotting them together to create horizontal lines for points) is so successful that is has strong links with the collapse of Communism and the Soviet state. Hmmm, I can't quite see it myself.

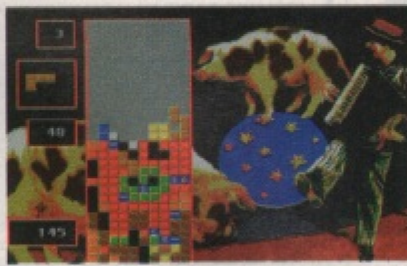
The difficulty with creating a sequel to a game like this is how to improve an already perfect game design. What you add or change musn't destroy the addictive simplicity of the original but must add more to the gameplay somehow. The answer is to change the aim slightly, break the game into definite levels add a few bonuses for good measure – and that's what has happened here. This time round, though, rather than simply keeping the screen as clear as possible while the game gets faster, you have to try and empty a deep pit, which scrolls upward as you remove lines to display a picture. You have a limited number of pieces to work with, and when you have fully displayed a picture, you move on to the next, harder level, where the pit is deeper and the blocks fall faster.

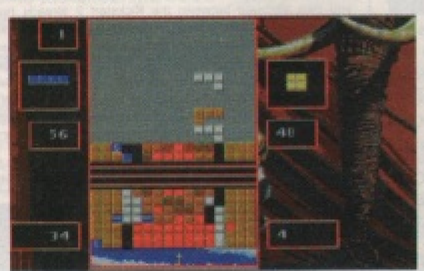
BOMB THE BEAR

The first major gameplay change is the addition of bombs. Whenever you destroy a line, pairs of bombs fall instead of a block, and these destroy the boxes they land on, and can be used to create gaps in the rubble below. This helps a lot, but doesn't automatically make things easier. Bonuses also come in the form of special blocks hidden in the rubble. These can do anything from giving you five extra blocks to use to destroying the line they're on. Bonuses are accessed by dropping bombs on them.

All of the original features of *Tetris* are present, from the Russian music through to the link-up two-player head-to-head option, but I can't help feeling that this cheapens the original slightly. Don't get me wrong, it's an excellent game, but not really removed enough from the original idea to merit buying. Still, it is *Tetris*, so no doubt it's likely to sell by the absolute bucketload no matter what I write here.







buyers guide

release date	**July 1992**
genre:	**Puzzle**
team:	**Spectrum Holobyte**
controls:	**J,M,K**
numbers of disks:	**1**
number of players:	**1/2**
hard disk installable:	**No**
memory:	**All Machines**

MICROPROSE £25.99

"Same old game with a few bells and whistles..."

GRAPHICS	81%
SOUND	73%
LASTABILITY	83%
PLAYABILITY	87%

OVERALL 82%

LOCOMOTION

Do the locomotion with Tony Dillon as he tries his hand as a signalman...

ALL ABOARD

I guess I was a sick child. The most fun I could have with a toy train was to set up a lot of trains on the same track, and cause some kind of major disaster involving several hundred plastic soldiers. Admittedly, there are no plastic soldiers to maim in Kingsoft's latest puzzler, but there might as well be.

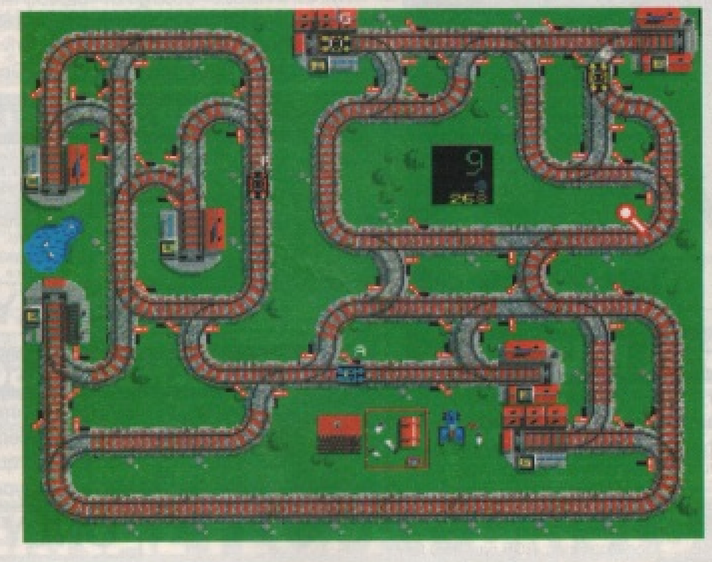
Locomotion is a puzzle game (some would say simulation) featuring a series of small, poorly-designed train networks. Each consists of six or seven lettered depots, and a maze of single-lane tracks linking them. As the network's signalman, your job is to make sure the dozen or so trains that make deliveries between them get to their destinations safely. No mean feat when you consider that the tracks can only support one train in any place at any one time. Clever use of loops and diversions is called for at times of trouble, and there are more than enough of them.

To begin with, things are fairly simple. Your depots are generally grouped in two pairs, and there are only a limited number of ways to move between the two. Trains tend to move within their own groups and everything is dandy. Then, as you move on through the game, the number of loops gets fewer and the depots are grouped further apart with less routes to use, too. In addition, as the game gets progressively harder, trains appear quite frequently. As a result, you can't leave trains standing in their starting depot for too long, or they're likely to receive a hefty shunt from behind.

KEEPING TRACK

There are eight trains per layout, and you must make a set number of trips within a time-limit before you can progress. You'd think that wiping out a few trains at the start would make life easier, but time is so tight that even if you are just one train short it can prove disasterous.

The game is well presented, with a clear full-screen display and all the switches for junctions clearly marked. The game is mouse controlled, and clicking the pointer on switches moves the junction sections between their two positions, so there's no clumsy controls to get used to.



Sound is used sparingly, but effectively, with a train whistle to warn you which one is about to begin its journey. Despite such a simple premise, *Locomotion* is a very tough game to play, and requires the sort of intense concentration that makes the veins stick out of your forehead. Simple stuff, but fairly entertaining nevertheless.

buyers guide

release date	**August**
genre:	**Puzzle/Strategy**
team:	**Kingsoft**
controls:	**Mouse**
numbers of disks:	**1**
number of players:	**1**
hard disk installable:	**No**
memory:	**Any Machine**

KINGSOFT £25.99

"Novel train fun. Original and captivating..."

GRAPHICS	78%
SOUND	75%
LASTABILITY	80%
PLAYABILITY	82%

OVERALL 80%



AQUAVENTURA

It has been in development for four years, but Tony Gill wonders whether *Aquaventura* was worth the wait...

SETTING THE SCENE

Aquaventura features one of the best intro sequences to a game that I've seen for a long time. In deep space, a lone fighter blasts off from a giant starship and narrowly escapes as the mothership is devastated in a nuclear explosion. Unfortunately, Psygnosis didn't have the good sense to quit while they were ahead...

A couple of years ago there was a flood of demo disks showing the fascinating things that could be done with a load of rotating balls – unfortunately, those demos were considerably more playable than this. The game involves flying a spacecraft above the surface of a watery planet in an attempt to destroy the power source which shields a mysterious pyramid. Various space invaders will annoyingly get in your way and you must blast them with your cannon and missiles.

Once the power source has been destroyed, the pyramid can be attacked and forced to disgorge the ferocious wobbly-ball monster which unaccountably lives inside. As the monster twists and turns, firing missiles at your ship, you must hit each one of the balls until it is finally destroyed. At this point you will be sucked down into a wire-frame Channel Tunnel through which you must fly without smashing your ship on the walls. During this manouvre, alien ships which are coming the other way must be dodged as they seem to be driven by French pilots who have failed to notice that we drive on the left. If you emerge safely on the other side you are deemed to have reached safety and your ship is rearmed.





NICE, BUT...

It would be fair to say that all of this is well done. The graphics are smooth, the music is exciting, the controls are responsive. The problem only appears when it becomes apparent that there are only eight levels to the game and, adding insult to injury, they are all virtually identical – the second level is the same as the first with more aliens to avoid! However, with the ship so easy to fly and the enemy easy to hit, the game might give satisfaction to younger players who won't notice that there's no depth to it. Once the purchaser has played the game for an evening and glimpsed the true nature of the beast, though, they'll realise that it is, like the end-of-level snake, just a load of balls...

buyers guide

release date	**Now**
genre:	**3D Shoot 'Em Up**
team:	**Bill Pullen**
controls:	**joystick**
numbers of disks:	**2**
number of players:	**1**
hard disk installable:	**No**
memory:	**Any Machine**

PSYGNOSIS £25.95

" Initially interesting, but limited in variety... "

GRAPHICS	75%
SOUND	78%
LASTABILITY	40%
PLAYABILITY	70%

OVERALL 60%

CATCH 'EM

Tony Dillon remembers when Game And Watch was all the rage, and Donkey Kong Junior was just out of nappies...

GLORY DAYS...

The whole world's gone soft. Remember the days when you could cull and maim as many digital cuddlies as you wanted without being branded a maniac or killer. Not in these green enlightened days. Nobody would ever come up with a game which involved walking up behind Chimpanzees while they were eating, club them into submission while they smiled, and stuff them into a sack and lock them in a box. Or would they?

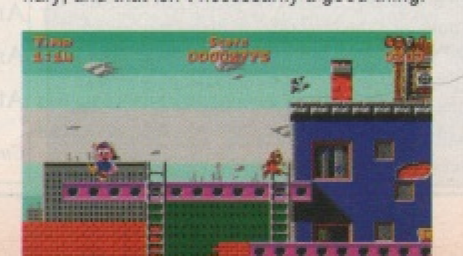
Catch 'Em reminds me of the sort of games I used to play at school, where the envy of the class was the kid with the fold-out Game And Watch system, with games played over TWO screens! Those games were violent and, on the whole, completely inoffensive. I wonder what Mr Game or Mr Watch would say if they could see this.

Your task is a simple (sinful?) one. You work for a local zoo, from which hundreds of Chimps have escaped. Armed with only your Chimpanzee Stunning Unit – a baseball bat – you have to locate the chimps and cart them back to the zoo, but not before teaching them a lesson they'll never forget. There aren't only lovable chimps on the loose, though. There are *Donkey Kong*-like apes and massive gorillas who have a habit of moving ladders around – handy on some of the later levels where platforms seem inaccessible.

EXTRA HELP

Scattered about the four-way-scrolling levels are all your tools of the trade. There are spare baseball bats to replace any you break whilst Monkey beating. There are also bowls of food to distract the chimps before you knock them into next week, and there are nails to secure bananas so the chimps can't drop them in your path for you to slip on.

Catch 'Em looks and plays like any standard cute platform game. All the sprites have a cheery air about them – even when they are getting their skulls smashed in or are falling from a high ledge. Music and sound effects are suitably 'bouncy', although the bone-crunching thud when you swing your bat could be taken as a little too gruesome. The control method is a little out of the ordinary, and that isn't necessarily a good thing.





The firebutton is used to jump, rather than access the currently selected weapon (with the spacebar used to access your weapons). To swing the bat, you simply pull down and press fire, which often spoils any chance of instinctive play early in the game.

Catch 'Em is a return to the sort of game we all used to play, updated slightly for today's market. However, dated gameplay and dated design make this an extremely average game.

buyers guide

release date	**Out Now**
genre:	**Platform**
team:	**Prestige**
controls:	**Joystick, Keyboard**
numbers of disks:	**1**
number of players:	**1**
hard disk installable:	**No**
memory:	**All machines**

KINGSOFT £25.99

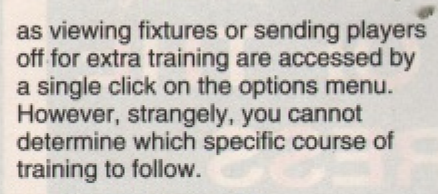
" Average platform game – not for animal lovers! "

GRAPHICS	75%
SOUND	72%
LASTABILITY	69%
PLAYABILITY	76%

OVERALL 73%

With shoulder pads firmly in place, Tony Dillon sets his sights on the Superbowl...

TOUCHDOWN



DER MANAGEMENT

With football management games experiencing a revival at the moment, it's a little unusual to see an American Football sim crop up. And I'm sorry to say it isn't the best debut game Strike Force Design could have come out with. The game fits along the lines of a classic management sim, in the same style as the ancient *Headcoach*. Guide your team, win as many matches as possible, finish top of the league – and so on.

As management games go, *Touchdown* is a very simple one. You begin with a team of 24 players, each with a skill level which increases with age and experience. All options such as viewing fixtures or sending players off for extra training are accessed by a single click on the options menu. However, strangely, you cannot determine which specific course of training to follow.

MATCH TIME

The matches can be played out in two ways. You can either play 'Results Only' mode, where you only receive the scores of the matches you play. This makes the game incredibly shallow, leaving you with almost no control at all. The other mode, 'Game Mode' lets you control each Down, by selecting which play to use and then watching the results of your orders, shown in text and accompanied by some green and black digitised shots. Although this offers more control, it is still dull. After each play is selected, the pictures have to be loaded, wasting time, and for some reason the matches take ages to play, and there's no way of speeding them up. I'm sorry, but choosing one of nine options over and over again isn't my idea of fun.

American Football is a pure action game, and is exciting to watch. *Touchdown* is presented in such a drab way, that all the tension and atmosphere are lost.

ADDRESS BOOK
***Touchdown* is available via mail order from SFD, PO Box 40, Sunderland, Tyne & Wear SR2 8DF.**



buyers guide

release date	Out Now
genre:	Management
team:	SFD
controls:	Mouse
numbers of disks:	2
number of players:	1
hard disk installable:	Yes Memory:
memory:	Any Machine

STRIKE FORCE £14.95

'Repetitive management sim. No atmosphere...'

GRAPHICS	62%
SOUND	34%
LASTABILITY	46%
PLAYABILITY	40%

OVERALL 51%



CYBERBLAST

Tony Dillon picks up Innerprise's latest arcade blaster as the American company throws down the Gauntlet...





HARDLY ORIGINAL

I don't care that this game is set far into the distant future. I'm not all that bothered that the Trans-universal Portal Experiment has gone badly wrong and that the Earth is in serious danger of being swallowed up. You can't fool me, this is nothing but a complete rip-off of the ancient arcade hit, *Gauntlet* – and not a particularly good one either.

As mentioned, the Earth is in danger, and only you can save it. To do so, you have to work your way through 64 levels, killing everything that moves, collecting everything that doesn't, and escaping before your time runs out. If I told you that the entire game was viewed from above and scrolled in eight directions around the main character, or that two people can play over a split screen with large hordes of monsters coming towards you from small generators, would you think of *Gauntlet*? Hopw about if I told you that there were levels where walls flashed on and off, or that there were other levels where you had dozens of false exits? This game wasn't just inspired by *Gauntlet* – they have practically laser-copied the idea.

AND NOW THE BAD NEWS

But that's the good part over with, now for the bad. The game proclaims that it has '...more to shoot, dodge and grab than in any arcade hit!' True, there is a great deal of blasting, but there is so much on screen that the game suffers for it. The speed of the action is atrocious, and that includes the scrolling and the responsiveness of the main sprite. What's the use of picking up a high-powered laser pistol if you can't even turn around quick enough to use it on the advancing robotic octopi?

In a word, *Cyberblast* is awful. There isn't an original idea in it, and although that doesn't automatically make it bad, the program is executed so badly. If you really want this sort of game, get *Gauntlet II* instead – it's cheaper and far better.



buyers guide

release date	Out Now
genre:	Maze game
team:	In House
controls:	mouse, joystick
numbers of disks:	1
number of players:	2
hard disk installable:	No
memory:	Any machine

INNERPRISE £25.99

'In two words, drastically unplayable...'

GRAPHICS	72%
SOUND	70%
LASTABILITY	59%
PLAYABILITY	50%

OVERALL 56%



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MEGASPORTS

compilation of THE MONTH

It wasn't until I received a Commodore 64 that I really started to get into computer games. It was early 1982 and my beige suitcase (as they were fondly known) was given to me with the likes of *Jumpman*, *H.E.R.O* and *Pitstop II*. With the exception of certain Spectrum games, no other machine could touch the C64 and, if decent Ultimate games were the only thing lacking on the C64, at least the many 64 owners could point to the Epyx games and say 'beat that'. And of these Epyx titles, the '*Games*' series reigned supreme. *Summer Games*, *Summer Games II*, and *Winter Games* were all classics of the time, and now both *Summer* titles have finally made it on to the Amiga. Marking an excellent move on U.S. Gold's part, they have bypassed a full-price release point and have headed straight for this rather good compilation.

That's not to say that they don't warrant a full-price release, though. Although the original versions are eight and five years old respectively, neither *Summer Games* nor its sequel have aged badly. With events ranging from cycling, kayaking, skeet shooting, and swimming, everything the would-be Sharron Davies or Daley Thompson could want to try is here – and all are extremely well presented. Graphically, they are very similar to the C64 originals, and whilst the animation isn't particularly wonderful, it serves its purpose. However, the main point in its favour is that each event requires genuine skill if you are to attain gold medal status.

The compilation is rounded off with the equally hot *California Games*, and this helps make Megasports one of the best compilations to appear from U.S. Gold's Brummie offices.

U.S. GOLD OUT NOW £25.99 88%



Fresh from its breather last month, VFM is back with all the best in budget buys. So if you're short on cash and want to expand your software collection, look no further. Take it away, Steve Merrett...

SEYMOUR GOES TO HOLLYWOOD



With the *Dizzy* formula proving extremely successful, it seems that the Codies are rather stumped as to what to do next. Thus, it is with minimal imagination that a new ovoid hero is born – the titular Seymour. Resembling a rather overweight Dizzy, Seymour is set to appear in a series of rather familiar puzzle-based arcade/adventures which involve guiding the acrobatic egg across a series of flick-screen locations – in this case Hollywood. OK, so this is average fare, but why didn't Codemasters just stuff it out as another Dizzy game? After all, everything else in the game is identical. Perhaps this is just a minor gripe but, even so, all this wandering around collecting objects is getting a little tedious. There's absolutely nothing new here – oh, except Dizz – sorry, Seymour himself – but I'm sure all you Dizzy fans will love it. Perhaps I'm just a cynical old git...

CODEMASTERS OUT NOW £7.99 52%

NARC

Eugene Jarvis is a man who knows how to make a good shoot 'em up. He was the genius behind both the *Defender* and *Stargate* coin-ops, and Narc saw his welcome return into the nation's arcades. However, none of the coin-op's plus points – of which there were many – made it into this conversion. Coded by The Sales Curve (home of *SWIV* and *Rodland*), the *NARC* conversion is a frustrating shoot 'em up with very little going for it. Assuming the dangerous role of a drugs enforcement officer, your only aim is to wipe out as many junkies and pushers as possible whilst also knocking out their production plants. Now this was great in the coin-op as it meant loads of fast-paced death dealing, but the Amiga version is far too slow to make it enjoyable and also suffers from dodgy and unresponsive controls. If you were a fan of the coin-op, then do yourself a favour and stick to playing it. There's about as much fun and as many laughs here as your likely to get at a Proclaimers' concert.

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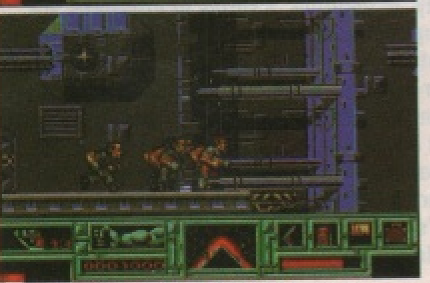
TOTAL RECALL

At the time Ocean originally released *Total Recall*, their film licence machine had only used *Batman* to produce the mishmashes of platform and driving sections which we all came to expect – although by *Darkman* they finally got the message that it was getting a little too stale. To be fair, though, Ocean's plans for *Total Recall* were actually dumped on by their first choice of programmers and, when it became apparent that the game was never likely to appear, they had to rush-release this version. Personally, I reckon that it's actually quite playable. If you're the person who hasn't seen the film, *Total Recall* follows Arnold Schwartzenegger's character of Doug Quaid as he travels to Mars in an attempt to regain his lost identity. In a series of action sequences, he pieces together who stole his memories, and eventually liberates Mars from its evil Governor.

In the game, the player must take Quaid through a series of platform-based sections and driving sequences, whilst avoiding the many guards and mutants out to stop him. Arnie is portrayed as a stocky sprite and looks suitably mean as he stomps through the stages. OK, so none of this is particularly attuned to the film's plot, but it's still playable – and it's probably worth a look at a mere eight quid, too.







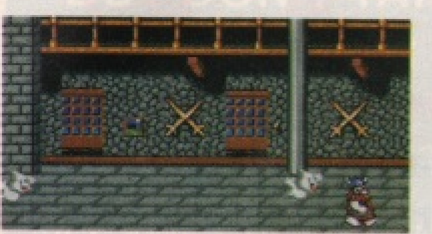
THE HIT SQUAD OUT NOW £7.99 63%



SPIKE IN TRANSYLVANIA



Blimey, there I am harping on about *Seymour Goes To Hollywood's* blatant similarity to Dizzy, when along comes yet another puzzle-based arcade/adventure from the Codies. I can imagine the scene in their boardroom as they toss around new project ideas: 'Hmm, what sort of game can we tackle next.' '*Dizzy* sold well, so let's do another arcade/adventure!' Sad really. The thing is, no matter how much they cram into these games, and no matter how often the title character is changed, they still get dull after prolonged play. *Spike* is extremely average stuff and stars a Hagar The Horrible lookalike who must explore – surprise, surprise – a series of flick-screen rooms. OK, so it's well done, but we've seen it all before. Personally, I'd rather Codemasters stuck the word 'Simulator' after every title again...



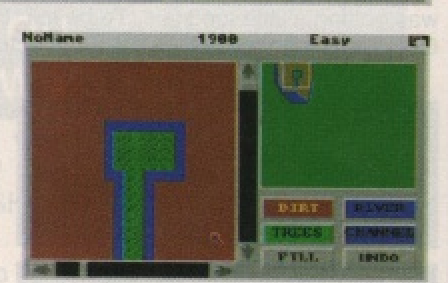


CODEMASTERS OUT NOW £7.99 **56%**

SIM CITY DATA DISKS

The city creation game that started it all! *Sim City* is an incredible game where the player must expand and build a city, whilst protecting it and its inhabitants from harm – including a rampage by Godzilla. Now, from Action 16, the three accompanying data disks are released at excellent budget prices to extend the game's longevity. The architecture disks offer a series of graphical themes, ranging from an American cityscape to a moonbase, whilst the terrain editor allows the player to create landforms by placing whatever trees or islands you deem necessary. *Sim City* is an essential buy, and I strongly recommend you snap up at least one of these accessory packs.







ACTION 16 OUT NOW £7.99 **86%**

PANG

A real rarity in the arcades, *Pang* is a rather spiffy shoot 'em up with a difference. Cast as a big game hunter, your prey is a series of bouncing balloons which must be popped by shooting them. Contact with them, though, proves fatal, and as the game progresses, the levels are gradually cluttered with extra platforms and ladders to hamper your manoeuvrability. In addition, a series of creatures are also scampering hither and tither, and will temporarily disarm the hunter.

Extra power-ups add to the 'pop'-tabulous fun, and can double your firepower or extend the strict time-limit slightly. I must admit that I'm a real *Pang* fan. It's not the best fast-paced game I've played and some of the earlier levels are a little tedious to have to play through, but it's addictive in its own funny way, and contains that all-important germ of gameplay to keep you interested.



ACTION 16 OUT NOW £7.99 **86%**

NIGHTBREED (ARCADE)

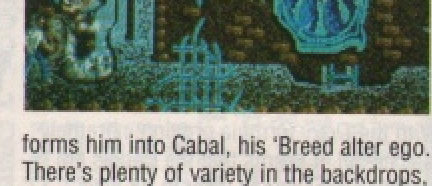


Unfortunately, Clive Barker's film wasn't the great success everyone hoped it would be, but that didn't stop Ocean pushing out two arcade games based on it (a third game, based on RPG guidelines was also planned but consequently shelved). Of the two *Nightbreed* games, this is probably the better of the two, but is still far from classic material.

As Boone, the prospective leader of the Nightbreed people, you must free them from their underground confines and also protect them from the 'Sons Of The Free' who are out to kill the mutated creatures. In addition, the psychopathic Doctor Decker is also out and about, and is systematically killing everyone he meets. The good thing about *Nightbreed* is that it extends its limited platform and beat 'em up gameplay by adding a series of goals. First of all, the 'Breed must be located, and then Boone must reach Baphomet (the Nightbreed's spiritual leader) who will tell them to go with you. After that, a confrontation with Decker must be won, and you must then lead the Breed to safety.







Such a scenario thus ensures that the game ties in with the film's plot quite well, but without making the gameplay bitty and disjointed. That said, though, the actual implementation of the game isn't particularly hot, and control over Boone is rather slow at times – although a nice touch is that pressing the 'T' key transforms him into Cabal, his 'Breed alter ego. There's plenty of variety in the backdrops, but not enough in the gameplay. Even so, *Nightbreed* is still a fairly reasonable budget release.

THE HIT SQUAD OUT NOW £7.99 **69%**

EMLYN HUGHES' INTERNATIONAL SOCCER

Good old Emlyn Hughes: he's always there, grinning away like a demented Colgate advert, spouting on about Football today and how good Liverpool were in the 70s... What's more, he's also the star endorsing one of the first releases on Entertainment International's Touchdown label. Originally released by Audiogenic after much acclaim in its C64 incarnation, *EHIS* is a sideways-scrolling Footy sim which boasts realistic moves and fast-paced action. Unfortunately, it can't live up to these claims. As Footy games go, *EHIS* is rather average. Yes, everything that makes a competent kickaround is present, but it still doesn't gel together somehow.

The actual on-field action is rather slow and dull and, whilst there are indeed plenty of moves available, they fail to add the much-needed spark the game lacks. It's by no means awful, but the word 'mediocre' seems to fit the bill rather nicely.







TOUCHDOWN OUT NOW £9.99 **50%**



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ALL AROUND THE WORLD...

Christopher Columbus is probably one of our most famous travellers – and, no doubt if he were alive today, he could comfortably find his way to Mile End from central London on the Underground. The equivalent task of his age (the 15th Century) was to roam the seas, searching for uncharted lands and, well, chart them.

You had to be a hard person to brave the open seas, facing who knows what who knows where – especially since it was so easy to sail off the edge of the flat world. As an intrepid explorer you have to find as many islands as you can, colonise them, set up trade routes and make as much money as possible, and the only real test is that you have to do it faster than your four adversaries, each of whom represent a nation other than your own.

As is expected with a game such as this, *Discovery* is icon controlled, and follows a reasonably logical path. First, build an armed exploratory ship and send in out in the general direction of one of the eight main compass points. When it has found land, settle, clear the grounds to produce timber, build small towns and

DISCOVERY

IN THE STEPS OF COLUMBUS

Impressions have a stab at a God game. Tony Dillon is there to shout 'Land Ahoy!'



Creating profitable trade routes is essential in *Discovery*, as this allows the player to build up a ready supply of cash for further escapades.

OMAR SHARIF'S *bridge*

Could a computer be the king of the Green baize? Nick Veitch faces off a new contender.

PLAY YOUR CARDS RIGHT

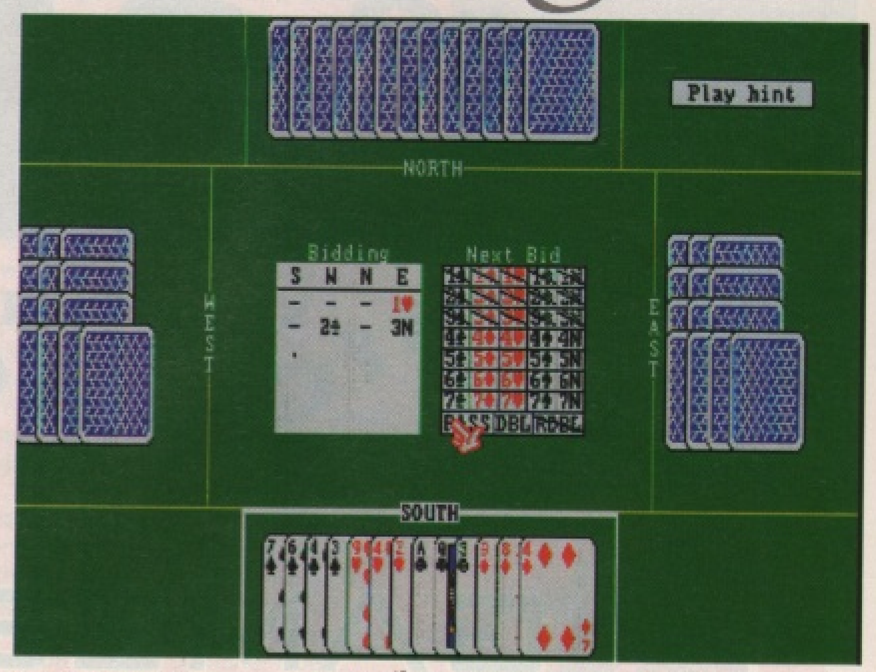
You would be forgiven for thinking that the game of Bridge is an ancient and noble one, played by Kings in their draughty medieval castles. Well, the modern game of Contract Bridge as we now know it has only been around since 1925. Still, that's long enough for someone to have come up with a decent computer simulation you would have thought.

Bridge is a game, very similar to Whist, played with one deck of cards and four people. It's a game of two halves: the auction, where everybody tries to out-Sotherby each other guessing how well they'll do in the second part; and the play, where the cards are played in Whist fashion. Points are awarded for making your target and, as is the way of things, points are deducted when you fall short

The card play isn't all that tricky to get to grips with, but the bidding can be. It's not just a matter of evaluating your hand of cards and bidding on that – you have to take into account what all the other players have, and what they are bidding. Unfortunately, this is where most computer simulations fall down. It's a sort of fuzzy logic exercise which is difficult to handle with conventional computer programming, unlike Chess.

ENTER OMAR

Omar's Bridge is very easy to use. The cards are quite clear, if a little small, and most of the menu options are accessible by a hotkey combination. Unfortunately, its bidding power isn't as great as the hype would have you believe. Although it firmly bids according to the ACOL convention (including Stayman and Blackwood), bizarre hands completely phase it. It is also impossible to choose



Forget Doctor Zhivago, forget all those Arabian epics... This is where Omar Sharif excels. And with such an easy computer opponent, I'm not surprised...



set up trade routes, buying stock cheaply from one port and then sailing to another where you sell it at an extortionate price.

COMICAL COLUMBUS

The gameplay is presented with a small scale map with lots of cute travellers doing cute things which are somewhat out of place with the serious nature of the rest of the package. When you build something, a comical building contractor with a suitably comic bowler hat comically marches up and down barking instructions through his comical megaphone.

You can scroll around the map, or at least as far as you have discovered, and this is where Impressions have tried something new. When you scroll towards the top of the screen, things come over the horizon at you, so you have the impression you are moving forwards rather than up.

As a strategy game, *Discovery* is fun, but there doesn't seem to be a lot to it. Once again, Impressions have gone a little over the top with their instructions, making the game seem far more complicated than it really is. It's nothing too serious, so it falls between two stools, but if you really want to give it a go, try playing it before reading the manual. It seems to make considerably more sense that way.

buyers guide

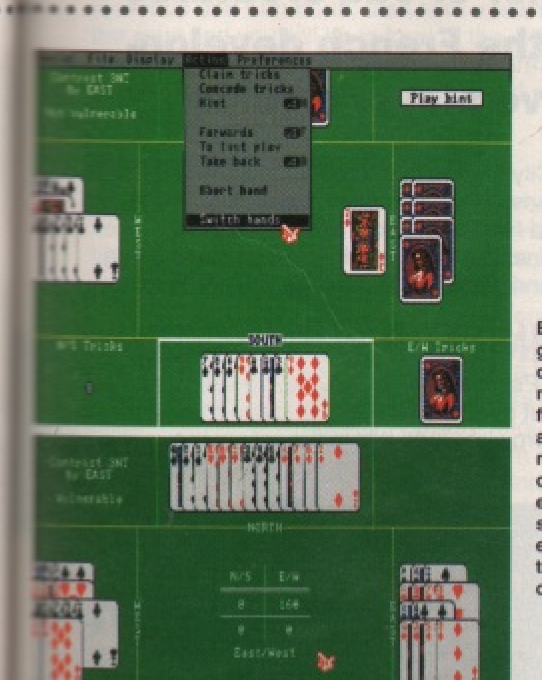
release date	Out Now
genre:	RPG
team:	In-house
controls:	Mouse
numbers of disks:	2
number of players:	1
hard disk installable:	No
memory:	All Machines

IMPRESSIONS £25.99

“Interesting idea, but a rather strange offering...”

GRAPHICS	74%
SOUND	72%
LASTABILITY	78%
PLAYABILITY	73%

OVERALL 71%



Everything in the game is menu-driven, and this makes for very fluid control. In addition, all the menus and options you'll ever need are present – you can even alter the pattern on the backs of the cards.

which conventions are to be added on to the basic system (no Gerber, Multi-twos, etc) and there are no discard conventions. The card-play is not of a master level, except perhaps a Bird's Eye Menu Master.

To be fair, it is an excellent package for the beginner to learn on before he risks going down to the local bridge club to be glared at by real card sharks. The spot effects of Omar telling you how well you are doing are very nice, but get a bit tedious after a while. This program is like a pair of short trousers – you'll grow out of it quickly (unless you are the Art Editor of CU Amiga, that is).

If Omar Sharif really plays bridge like this I'll have to invite him around for a few games at a pound a point...

buyers guide

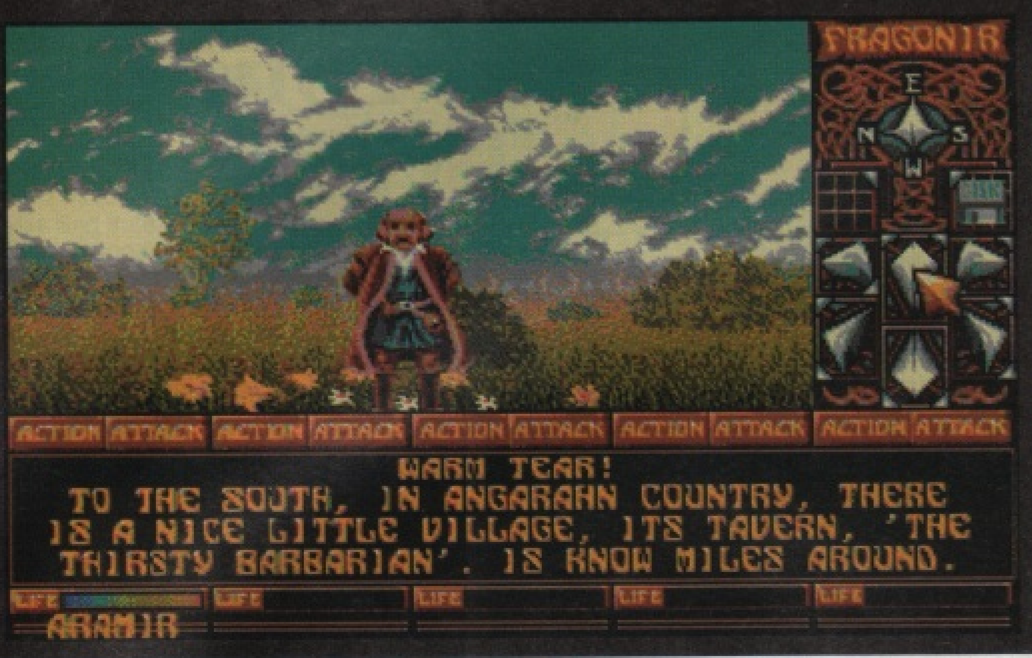
release date	Out Now
genre:	Card Game
team:	In-house
controls:	Mouse
numbers of disks:	1
number of players:	1-4
hard disk installable:	Yes
memory:	All Machines

OXFORD SOFTWORKS £29.99

“Excellent introduction to the game, but too easy...”

GRAPHICS	80%
SOUND	76%
LASTABILITY	66%
PLAYABILITY	72%

OVERALL 74%



Left: Be careful when recruiting people, as several traitors will want to join your party and gain access to your coffers.

Right: Always make sure your party rests frequently, or you'll suffer later on.

ISHAR

Silmaril's enchanting RPG is literally brimming with all manner of odd creatures and puzzles. Luckily for you, though, we've teamed up with the French development team behind the game to bring you this comprehensive player's guide...

WELCOME TO KENDORIA

This solution does not take the hazards of fights into account. It is up to you to manage your team and budget as best you can depending on your situation. Whether it's dismissing or hiring team members, killing, returning to towns and villages to eat, sleep, hiring or buying – always take training courses or gather information.

MEETING WITH BORMINH

Heading East, you'll meet Borminh who's a smooth talker and, if you give him a little money, will tell you the names of a few good inns. You can also enrol Borminh, but beware as he's a traitorous character. You'd better not fall asleep in his presence, either, as he'll nick whatever he can lay his hands on. Conversely, though, he can be very useful in fights and will take blows intended for others. Carry on eastwards but when you get near a pool, turn south and in the birchwood you can enrol Kiriela. Once recruited, place her in the second line of your party and prepare a fireball rune. Now turn south-west again as far as the village .

ANGARAHN VILLAGE

Fight a few Orcs before visiting the inn to do a bit of shopping. Also, visit the house of Akeer who will then tell you about the quest to be pursued – a rather useful training course is also on offer in the village

Continue to the south-west, and skirt around the bushes to the west. You'll encounter a few fierce orcs to be killed, but once they are disposed of, go into the house and recover the treasure. On the way back, pick up the teleporter which is found to the east of the house on the other side of the bushes

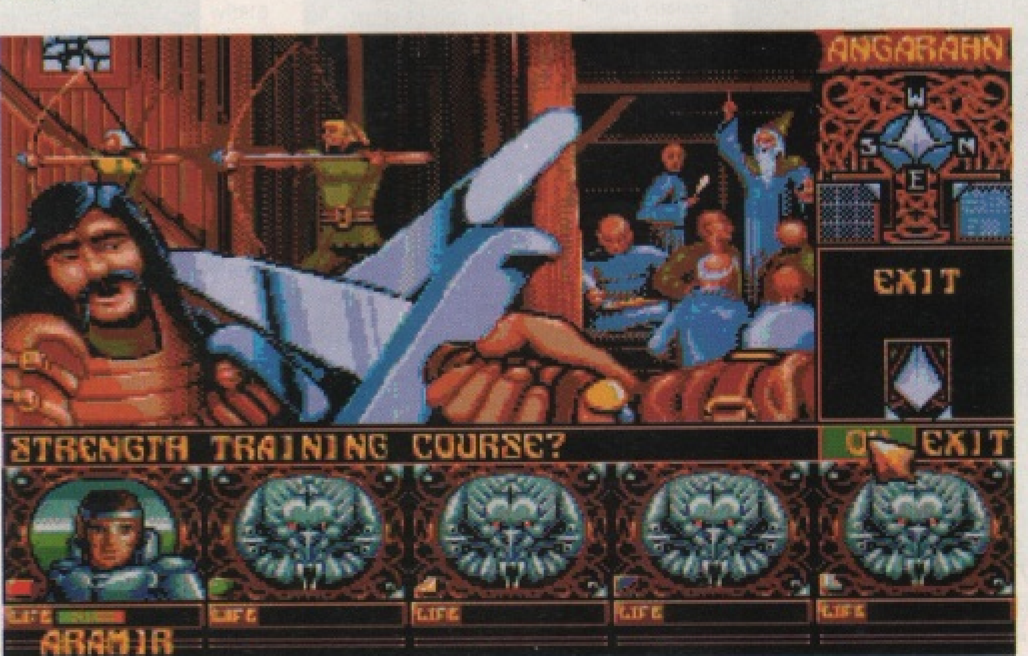
TELEPORTATION

Turn south-east, and cross the bridge whilst keeping an eye out for the rather tough Barbarian (fireballs are the best ticket if you do get nabbed, though).

Lake City features a merchant, another course, and two inns. When you meet them, don't enrol Golnol and Nasheer in your team – they are traitors. Finally, on leaving the city, go south along the river and cross the first bridge you come to.

LOOKING FOR WHITE IRON

There's a Psycho Analyst's hut to the south, and a reptile's hut nearby which is also close to where the night prowlers lurk. It is in the reptile hut,



The many people you'll meet as you wind your weary way through the game will offer you advice on good inns to stay at – information on useful courses can be gained, too.





Right: Whenever you have a few quid to spare, always stock up on provisions and weapons. And make sure they are given to characters most suited to using them.

Below: The forest is full of interesting people – but is also home to vicious creatures...



though, that the message will be found encoded – and can be translated if one of the members of the team is highly skilled in languages. In the bushes is a purse full of gold coins.

Travel east as far as Rhudgest, and then due north as far as the ocean. Next, return westward to Osghirod and, in the bushes, you'll find a knight in armour – this is the White Iron you have been seeking, and he is waiting for you. Kill him and take his helmet. Then head east, followed by a right to Rhudgast.

THE DUNGEON OF RHUDGAST

Head south as far as the river, and then travel upriver to the east, killing the little dwarfs who attack you on the way. After a while, you will find a purse. Pick it up and turn north, then take a few steps to the west and you will be in front of the entrance to a fortress which you must enter. The fortress is divided roughly into two areas: east and west, and the division is at the first crossing.

THE EASTERN PART

Release the handle to enter the north. You will now enter a succession of labyrinths containing treasures and quite a few skeletons, which will eventually lead to the north-east corner of the fortress and a room with a key and some useful treasure. Beware, though, as in this eastern section you may find a handle. Don't use it, though, as it jams and you will be locked in the fortress.



THE WESTERN PART

Eventually, you will reach a large room with two entrances to the north. The western access will lead you to a runic tablet, whilst the eastern access enables you to reach the magic phial which is essential for the rest of the game. Beware when leaving, though, as one route leads to a giant who can prove very problematic.

Once this is completed, leave the fortress and head back to Osghirod. Travel alongside the river to the west and take the bridge which separates Oshirod from Lotharia

SAFARI TO LOTHARIA

Enter the village to the west – taking a few freshly-killed Panthers as trophies on the way – and you will find an inn, a merchant (Mace), and another useful spell-making course. Next, travel due south as far as the ocean, and head west along the coast. Among the four birch trees you find there, the spirit of Azalhgorm appears and gives you information.

Set off again due east along the beach – eat the wild Sempiternals for extra nourishment – to find and pick up a runic tablet on a pedestal.

ON THE PREDATOR'S LAND

Put the mental vision helmet on of one of your characters, and travel east to Fimnuirh. In the middle of the forest, to the east, you should come to a clearing. Somewhere in the middle of this stands a solitary tree surrounded by little flowers. The mysterious predator should be waiting for you, but if it isn't, walk west again to find it and, hopefully, kill it. Collect the four magic rings which will protect you from Dragon's fire.

Travel north as far as the river. Walking along it to the east, you will come to a bridge. Cross this.

THE BRIDGE GUARDIAN

At Rhudgast, there's a two-way journey with a village and, in particular, a lake city. Turn east to enter Aragarth, and continue to the east as far as the river. This river can be crossed using a bridge ruled over by a minotaur, and to the north of this you'll find a merchant. Give him 5000 coins and he will give you a potion which is essential for inventing an 'eye-opening' prescription. In addition, to the south of the bridge, the dwarf Fragon can be enrolled if need be.

Turn right on to the bridge and kill the Minotaur. It's better to make him waste all his magic weapons and projectiles from a distance before moving in for the hand-to-hand fight. Cross the bridge and enter Silmatil.

That's 70% of the game complete, the rest will be revealed in a forthcoming issue...



Always keep tabs on your party, and how they are bearing up. In addition, take every opportunity to upgrade their capabilties as it will make life – and battles – considerably easier as you progress.



CHARACTERS

THE GUARDIAN OF THE TORTOISE Travel north-east to the end of the land. Here, the giant Gato awaits you with his mace. Kill him and pick up the tortoise, Ygwen, who is hanging about on the beach. It is also possible to dodge Gato and collect Ygwen, but it can prove a little hazardous. Go south again to the Urshurak region, and continue southwards, skirting the ramparts, until you come to the city gate which you must open and enter.

JON THE ALCHEMIST Heading west, enter Kandomir. Enter the hut and take the parchment from Jon. This useful piece of papyruc contains magic prescriptions connected with those given at the end of the manual – so hold on to it.

MORGULA THE WITCH A useful team member who had been transformed into a pig by the evil magic of Krogh – thus refrain from killing the little would-be bacon sandwich when you see it. Instead, mix an 'Arbool' potion in the magic phial you picked up in the dungeon of Rhudgast. Find the pig by travelling east from the city of Valathar, then, when you reach the forest, travel south along the edge of the forest. After meeting Zach, head east into the forest to find the pig.

GRAPH

Graphics DIY is a series of articles which aims to help with all your graphical queries. In a series of stages we will be revealing useful tips and short cuts which will make life considerably easier. We are starting by piecing together a short animated demo based on Star Trek. With the bare bones of our demo put together, in the second part of this on-going guide, Peter Lee begins yto animate his characters and introduces Kirk and Co to the action...



READY TO ROLL

This issue's coverdisk contains a screen of clip-art featuring three views of the USS Enterprise, so you should be able to zoom straight in and work on our tutorials with ease. But, even if you're not a fan of Kirk, Spock, Scotty and Co, come along for the ride anyway, as our techniques are universal (excuse the pun!). This month, we'll be mixing elementary movement with more sophisticated 3D applications. Along the way, you'll also get to learn more about the practical uses of *DPaint III*, which we've chosen as our main graphics tool because of its vast user base.

ON WITH THE SHOW

To continue our storyboard (see last month's issue), we've covered the rotating planet, and now we need to bring in the USS Enterprise and display the title sequence of our work. It's also time to introduce a couple of the Trek characters into the story to drive the narrative along. On the way we'll be looking at another animation effects package which can accomplish much more than *DPaint* – if you have *ANIMagic* you can create small portions of animation to splice into the main *DPaint* animation to give things that added zing.



TITLES

Titling has become something of an art in itself on the Amiga. There are scores of special effects programs around, many reflecting their professional nature in hefty price tags. Standard titlers are also plentiful, but it's been my experience that you can achieve lots of wonderful text effects simply by using *DPaint*. Even lengthy scrolling credits are possible if you have the time and energy – simple one-screen scrolls are feasible in the context of our demo, and we'll find out how to do a Star Wars-type scroll into infinity, plus a couple of useful text effects so you can incorporate variety into your work.

Receding titling may be old hat, but it still looks great and has an authentic science fiction feel to it. They were doing it in the days of Buck Rogers and Flash Gordon. And while it will take something like 20 frames to do just one screenful of text justice, it will be worth the overheads. Hopefully, you will have in your fonts collection a decent-sized typeface (around 16 to 20 point) to use for your text. If not, and you are limited to Workbench fonts (Topaz, Diamond and the like), you will have to enter your text, cut it out as a brush, and enlarge it manually (by pressing the plus key (+) with the brush active). Sadly, this will lead to jagged edges, but by magnifying the new text image, you will be able to smooth this out yourself, using *DPaint*'s standard drawing tools. The wording should be simple, but long enough to make six lines to give a useful



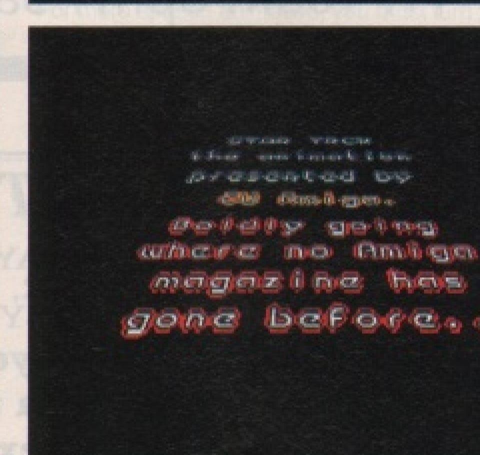




You needn't worry about animating figures. In some cases, just animate the text to give the image added zing. Here are three frames brought to life by having a text box glide and twist into view. Uhura just sits there looking lovely.

ICS DIY





As made popular in the Star Wars trilogy of films, an impressive way to set a scene is with a receding block of text. As your story unfolds, each new line appears in the foreground, with the previous text fading into the distance.

STAR WARS SCROLL TECHNIQUE

With your text cut out from the screen as a brush, alter the brush handle (that's where the mouse pointer is 'attached' to the brush – this is usually in the centre, but we need to alter it now). Do this by pressing the right ALT key and the Z key simultaneously. You will now have a movable crosshair on screen when you press the left mouse button, and you should position this at the very top of your text brush. This enables you to move all the text off the bottom of the screen. This does not leave an image on screen (provided your background colour remains unchanged at black), but it stores a reference point for the animation, so when we come to animate, the title will appear from the bottom of the screen. One aspect of *DPaint III* which is much neglected is the Perspective function; this is very powerful, but not easily understood.

Hopefully, once you realise its scope, you will feel freer to experiment. However, in any resolution – but especially the low one we are using for our animation – it is vital to invoke the image smoothing control called anti-aliasing. This may sound complicated, but it simply fools the eye into missing the jagged edges which naturally occur when images containing angles or corners are rendered by the computer; as each image is made up of small rectangles – pixels – you can expect saw-tooth edges as the computer calculates and redraws pictures as animation frames. Anti-aliasing tries to compute a smoother transition on jagged pixels to make an object's corners and angles appear more fluid. It is invoked from the pull-down menu Effect/Perspective/Setting: there are three options available – none, low and high. The last is by far the best, though be warned – it does take a long time for the computer to calculate – but it's worth it.

depth when the text is scrolled. We shall be creating the title text as a stand-alone effect, applying it over the main image afterwards, so make sure your 20 frames are all blank. You can see from the illustrations that the text begins life as a simple, boring screen. But after a few minutes *DPaint* will have done all the hard work and given us the basis of a very special scrolling anim brush. This technique will help you create any other kind of titling, too, and looks really good when you have more colours and more frames (see the panel for a detailed explanation). Once you've completed the tutorial, it only remains to cut out the image as an animbrush (pull down menu item Anim/Animbrush/pick up), save it as such (same menu, save option), and you can now add it to any image you care to load – in our case it will be the spinning world we created last month.

STAMP DOWN

Stamping animbrushes onto existing animations is straightforward. Having loaded your animation, load in the animbrush, call up the 'Move' requester from the animation menu and, with all the parameters set to 0, click on the draw command. NOTE: if you do this immediately after rendering your perspective text, be sure to cancel the anti-alias function by selecting None in the requester, otherwise it will take ages to draw.

Other text displays are easier to achieve. Here are a couple of other ideas. Make the text fly in to take up position. The quickest way to do this is to register the ending position of your text brush by clicking with the right button where you want it to stop, then informing the animation requester that it should record the sequence with the final frame showing the brush in the register position. This is done by selecting the icon showing an arrow hitting a dot on the movement requester. The distance you enter in the X movement box will depend on how fluid you want the animation, and how far the brush has to travel – but always preview a scene first to make sure it's going to run smoothly.

DON'T FADE AWAY

Fading in the text is a bit of a cheat, but it works! You will need to set up a spare screen containing your text brush, and create the required number of blank animation screens for your transformation. Basically, you need to use the spray brush with the background



Simple effects can often produce the most striking images. The Enterprise shown here is enhanced by the bright contrast in background colour.

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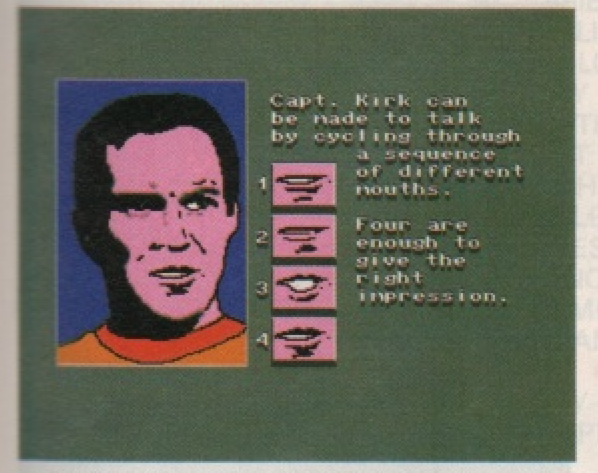
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GRAPHICS DIY



Once the lip-synch has been animated, add the words spoken into a text box. The lip movement will offer a real sense of life.



Slight alterations to a static image – in this case the mouth – can give an excellent impression of a talking head.

colour to nibble away gradually at your text brush, removing a small portion of the image until nothing remains. In between each reduction, you need to copy it to successive animation frames, moving backwards from the last frame to the first. So the procedure is: eat away a little of the text, and copy it to the last frame of animation, eat away a bit more of the image, copy it to the penultimate frame, and so on until you have a wiped-out text image which is copied to the first frame of animation. When the sequence is played, the text will gradually form. The higher the frame count, the better this effect – and once again, when clipped as an animbrush, it can be placed over any other animation or still graphic.

CHARACTERS

Our storyboard outline dictates that the Enterprise gets a message from the stricken planet. So we need to move our attention from the exterior view to the bridge. If you remember, we're going to create our animation a scene at a time, so at this stage we needn't worry about a smooth transition from one segment to another. But don't worry, we'll be covering the topic later on, when we come to splicing the story together. First, I'll show you two ways of having characters communicate. The first involves Uhura, and is the easiest because it uses a static image. The second has Kirk and Spock talking, using small areas of the image for the animation.

Using boxes of text to allow characters to speak, or to explain the story, is a device as old as comics themselves. Entering text is a doddle, but you also should think about giving even a tired old thing such as a text box some impact. I decided on scrolling the message up screen, because using this technique means you can get away with a non-moving background image – in this case Uhura sitting at her console – and have the text being displayed as an effect. Move the text to suit your needs (in this case it had to come from the left because the character occupies the right hand edge of the). It was drawn in 25 frames with the text box revolving slightly in all three angles – x,y and z to give a smooth 3D glide. And once again, the box's ending position was registered and the animation told to end its run there by selecting the arrow-to-dot box in the animation requester. Simply by experimenting with the figures in the requester and previewing the outcome, you can come up with some lively movement

KIRK

For more speech animation, you must turn to direct image movement. However, by taking a tip from the mass-produced cartoons (Turtles, et al) all you need to do is move the parts of the character which talk – the mouth, for example. Good old James T. Kirk can stand there like a pillar of salt, but provided his lips are moving he has had life breathed into him. An occasional twitch of the eyebrow or a blink will reinforce the deception – it certainly didn't do Roger Moore's career any harm! It doesn't take much work either: once you have your character drawn, you need to cut out the mouth. Keeping the original mouth safe, stamp down four or five mouths on a spare screen. Now just alter each one slightly; close the lips a little, open them, show more teeth, round the lips – just add variety. Go back to your main face drawing now (without mouth, of course), and create as many frames as you have different mouths. Flip between the spare and animation screens, and add a different mouth to successive anim frames. Easy, eh!



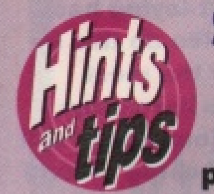
OFF WE GO

To give the text a starting angle now, we need to have have it laying back as it moves up screen. We do this by accessing probably the most unfriendly *DPaint* menu bar option – Effect/Perspective/Do. Your image will now have a rectangle ghosted around it, with symbols showing the orientation. You will also notice three figures appear on the top right of the menu bar. These tell us the angles of the image, and are set at 0 to begin with. Control of the perspective is achieved through the numeric keypad – for our purposes we need to lean the image 'back' in the z plane.

Don't worry about the terms, simply press the numeric keypad key 7 until the left-hand figure on the menu bar reads minus 45; as you tap the key, the ghosted rectangle will give you a visual reference as to the brush's position. You can move this brush about with the mouse to get an idea of what's been happening, but we need to do one more thing to get the effect underway. With the brush still ghosted in its perspective view, select Move from the animation menu, and a requester will open up. Make sure the frame count is set to 20, and enter 600 in the Y movement box; select the TOP brush option (there are two brush boxes at the right of the requester. If the lower one is also highlighted, deselect it so only the one above is chosen), and make the Z movement figure 60; see the illustration for more help on the settings. If you like, Preview the animation just to make sure everything is OK, then select Draw, and wait around 30 minutes for the frames to render.

You may notice from our titles that the letters have a glowing quality; if you do not want standard text, you can outline the letters with any colours from the palette. To do this cut out the letters as a brush, select a colour from the palette, and press o; this automatically outlines the brush. I like to use black as the first outline colour, then a lighter and darker shade of the same colour – red, blue or yellow say. For other work, you may like to use a range of six similar colours to give a stunning neon effect to text – but that's for another time... and another resolution. I have to say that 20 frames is not really enough to do this excellent effect justice. When you use these ideas for your own work, select as many frames as possible to give a smoother scroll. Our problem is one of memory management due to a lengthy sequence as a whole.

GRAPHICS DIY



SHORT CUT

Want to save time during graphical preparation – here's where to look...

■ Remember to use the keyboard as much as possible for tedious work. Having to go up to pull-down menus all the time can be a real pain. Here are some useful keys for this technique: when on the scratch screen, SHIFT/J copies the image to the current animation frame; J flips between scratch and animation; 2 and 1 move the frames forwards and backwards. Text animation is a separate subject in its own right, but hopefully the two methods I've outlined should enable to you evolve your own ideas, and get more out of *DPaint*.

■ Working with so few frames, it is important that the distances covered are not too large otherwise jerkiness will be apparent. It's also advisable that anti-aliasing be used to minimise the jagglies.

■ To ensure good registration – getting the mouths in exactly the right place so they do not crawl around foolishly on playback – keep using the 1 and 2 keys to move back and forward to previous and next frames. Your brush will still be on screen, and you can line it up with the old image before advancing a frame and stamping it down. It is obvious that exactly the same technique can be used for eyes, and other parts of the body, so experiment a little. Once again, what the character is saying will have to be presented as a text box as the mouth moves, but on this occasion the box can simply be made to appear without any special effects.

■ Yes, it may seem like a rather obvious point, but always save after every addition to your work! There's nothing worse than losing it all when your machine crashes!

THAT'S ANIMAGIC!

A video manipulation program – such as Aegis' *ANIMagic* – gives the user the chance to create animations which even *DPaint* cannot easily copy.

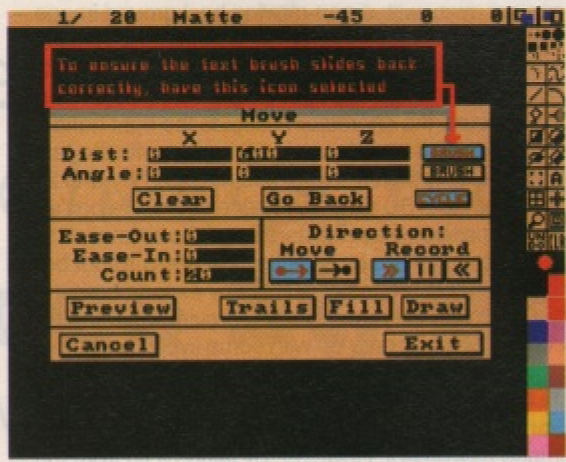
Control of the program is a little flaky until you memories the intricate control panel, but once a mapping definition has been loaded, you can record a sequence. This is done a frame at a time, but the resulting animation is saved as an Anim file, so it can be played independently, or appended into your on-going *DPaint* animation.



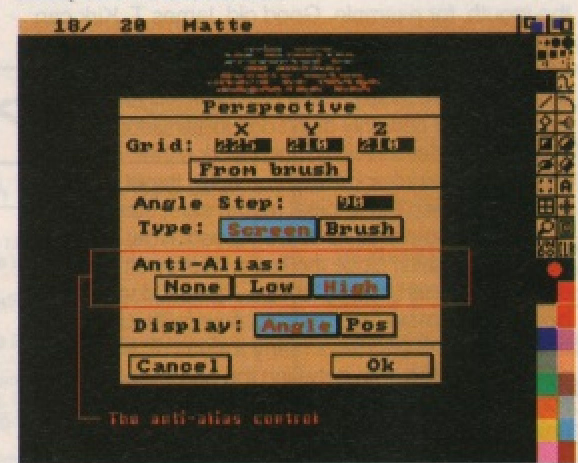
Using *DPaint IV*'s animation control panel you can ghost animation frames on top of each other. Here we see a portion of text gradually appear on screen, using the technique outlined in the article.



After calling up the perspective feature in *DPaint*, your brush is outlined with this ghost-box. X marks the spot of the right axis a and the arrowhead shows the top of the brush – useful markers, because when you start editing perspective, the brush image is notdisplayed.



DPaint's versaitilty makes it ideal for a demo such as ours. As well as its incredible drawing capabilities, additional features, such as the animation, make it an essential tool.



Time-consuming it may be, but calling on the anti-alias option gives far better brush animation results; it smooths corners and makes angles less jagged.



Four frames from a 25-frame animation showing how the image is manipulated to imitate a piece of paper unfolding.



AniMagic is especially useful for a routine such as this 'unfolding paper' effect. When drawn a frame at a time, the pictures can be saved as an anim file and played independently or through *DPaint*.



NEXT MONTH

We see Spock transport to the endangered planet and catch a glimpse of the alien...

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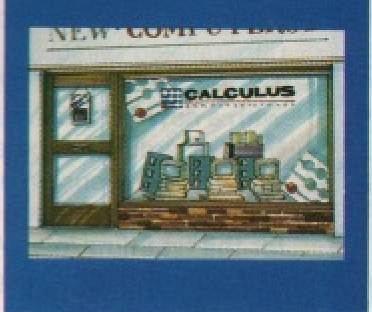
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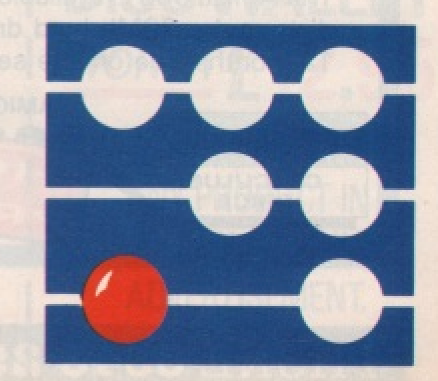
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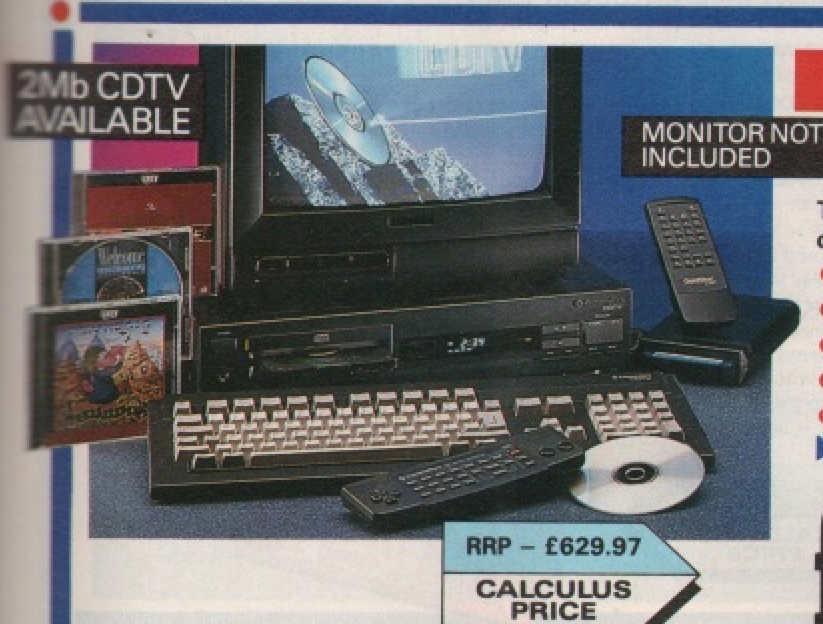
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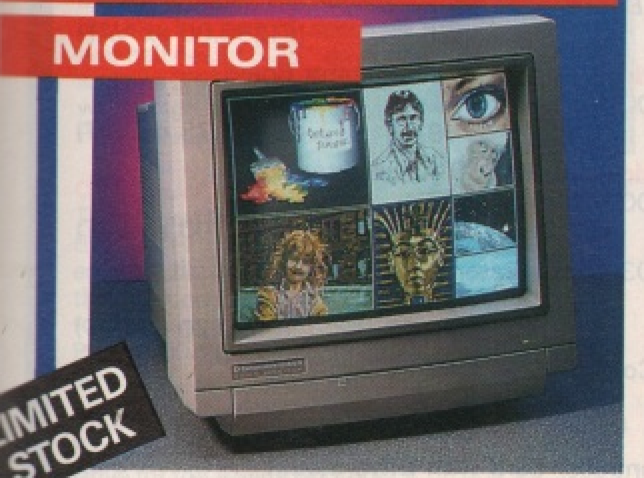
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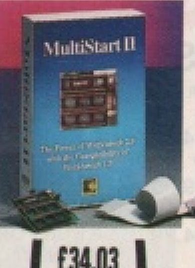
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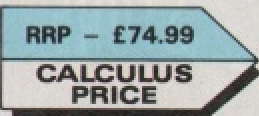
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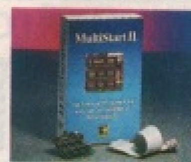
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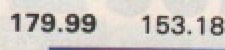
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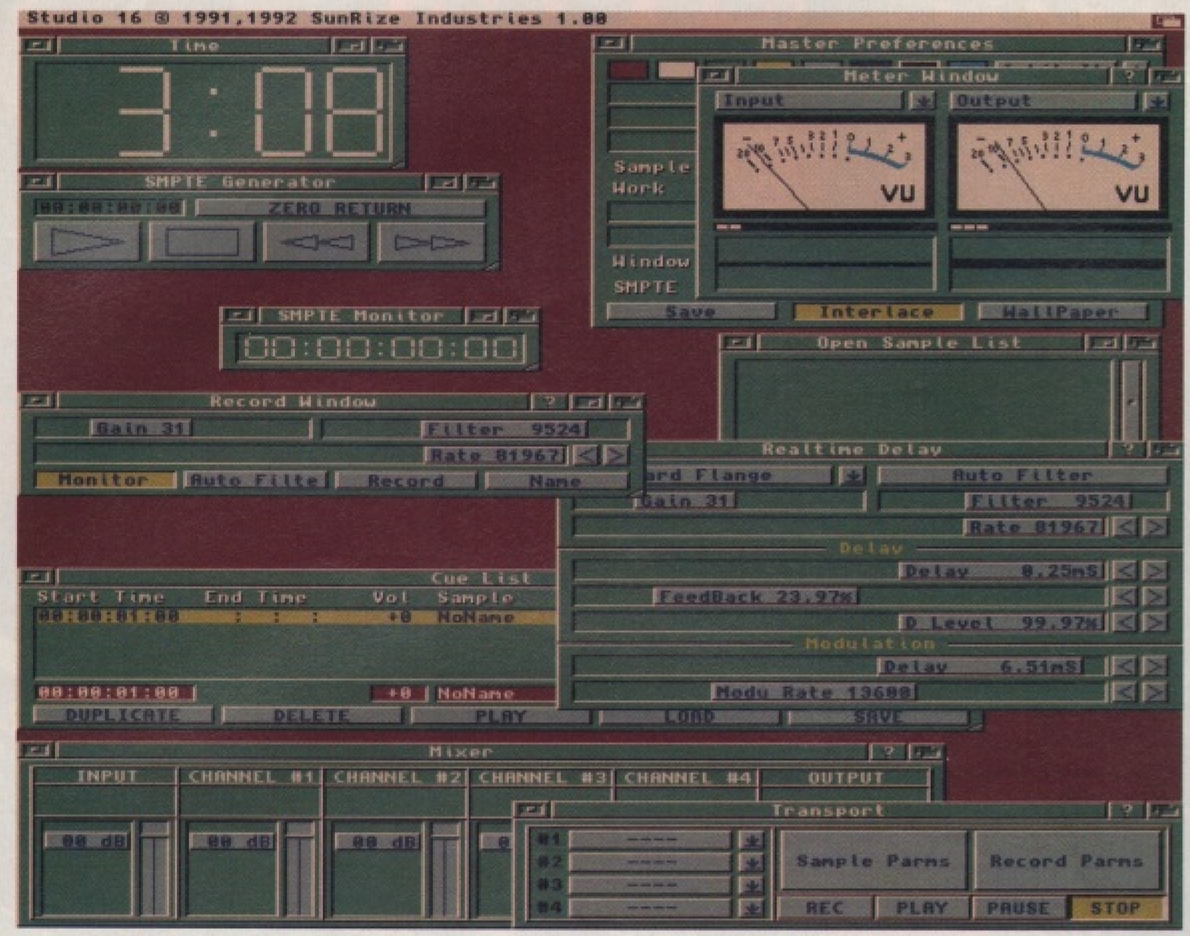
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Within the next section anything can happen. Every month, we will be getting to grips with strange new software, seeking out intelligent peripherals and inviting you to...

GET SERIOUS



Left: It may look confusing, but it's very easy to use. Just grab the window you want, pop it to the front and get on with it.

Below: The advantage of a dedicated sound processor is it's very easy to create real-time effects whilst you are sampling.

STUDIO 16

The Amiga is heading for the sound studios with 12-bit samples as Jolyon Ralph discovers...

AGING BEAUTY

The Amiga has some of the best audio hardware of any home computer. However, after several years at the top, it's beginning to show its age. The Denise chip (designed in 1984) replays 8-bit samples. The more bits in a sample, the higher the sample quality will be. Compact Disc players use 16-bit samples to capture audio at such a high quality level.

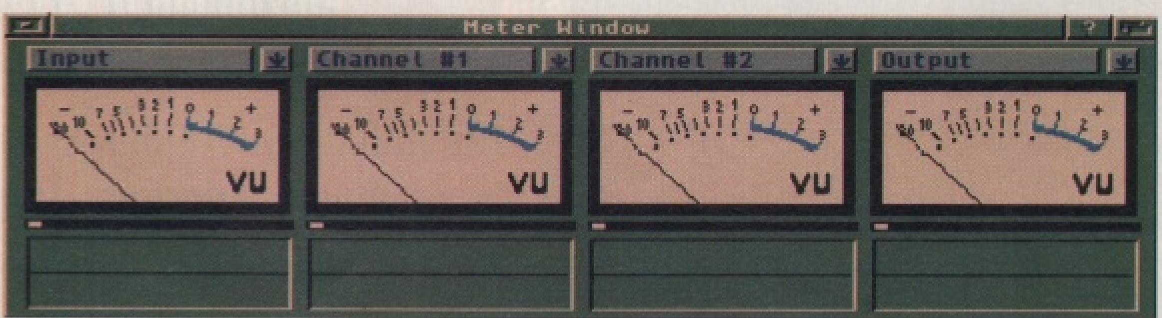
Standard Amiga sound samplers are fairly mixed in quality. Almost all plug straight into the Parallel port, and this can cause problems if you want to use other equipment – a printer, for instance. Some are also affected by interference from monitors and other hardware. In short, to ensure good quality samples on the Amiga requires spending lots of money on a decent parallel sampler (like *Audio Engineer*), and a lot of patience and effort. And, of course, at the end of the day, your samples are limited to 8-bit quality with a maximum sample rate of 28Khz (28,000 samples per second), much less than the 44.1Khz of CD-quality recording.

ON-BOARD SAMPLING

Sunrise Industries, who were responsible for one of the first 8-bit samplers for the Amiga – *Perfect Sound* – have now released the first sampler on an Amiga 2000 card. This avoids all the hassle of fiddling about with parallel cables, and is far less susceptible to outside interference, as it is contained within the metal case of the Amiga 2000. Best of all, though, this unit does away with the 8-bit sample resolution of the Amiga, and records and plays back samples at 12-bit, which is sixteen times the sample resolution of standard Amiga samples. The sample rate is also variable up to 88Khz – double the sample rate of Compact Disc.

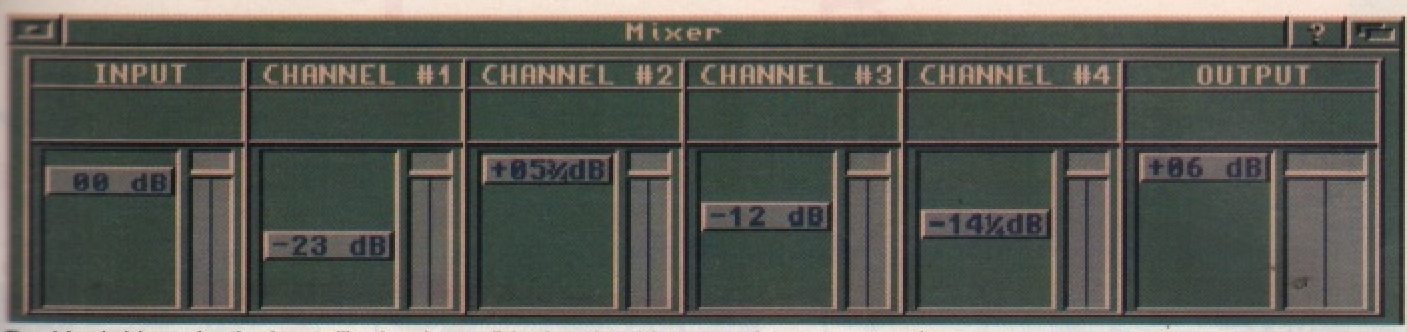
Installing the card into the Amiga 2000 or 3000 is easy. Find a free Zorro II/III slot and push the card in firmly. No other setup is required, other than to install the *Studio 16* software. Unfortunately, though, Sunrise don't have any plans for versions of the card for the Amiga 500 or the new 600.

The card has three phono sockets: Audio In, Audio Out and SMPTE in. The card is only Mono, although Sunrise promise they will allow the *Studio 16* software to record and play back stereo (with two AD1012 cards installed) in a future software update. The power at the heart of the AD1012 board is the Analog Devices ADSP-2105 Digital Signal Processor (DSP). This is a very fast proces-



What real studio would be complete without a bank of VU meters? *Studio 16* is no different and these meters are probably more reliable.

SMPTE For professional use, the SMPTE time code support is exceptionally useful. SMPTE doesn't stand for anything exciting or clever. It took the initials of its founding fathers, the Society of Motion Picture and Television Engineers. In effect, SMPTE is a time signal coding system which allows you to accurately control professional audio- video equipment from the AD1012 card to, for example, play 12-bit samples at exact points synchronised to a backing track for a film. Nothing really useful for the amateur user, but essential for the professionals.



The mixing desk is very functional, controlling the gain over all the channels and the master volume.



THE PRICE IS RIGHT? After reading such a glowing review, no doubt a few of you are reading the score boxes and raising your eyes at the price. True, Studio 16 and the board are a little pricey, but when it comes to quality this pairing cannot be beaten. Not only is it of excellent quality, though, it is also raising the Amiga above the limitations imposed by 8-bit samples. So whilst it may indeed seem like a high price to pay, this is the path to the future of Amiga-based music...

sor which specializes in manipulating audio data in real-time. It can do all sorts of real-time effects from flanges and choruses to echoes and pipes.

The *Studio 16* software is impressive. With a specialist piece of hardware like this, you don't normally expect software so crammed with features and so easy to use. It's all modular, so you can remove modules you don't need (for example the SMPTE timecode stuff) to save memory, and future update modules will be made available, including some from third party developers.

SET-UP

Because the hardware has its own processor to handle all the sampling and effects, the software uses very little Amiga resources, and can even multi-task while sampling. This allows it to do something that 8-bit samplers can't – direct sampling to hard drive. But beware! With a 50Mb hard drive you can only record up to 10 minutes of audio at 44.1Khz, so you'll soon need to think about a larger hard drive if you don't have much room free.

It also requires a fairly fast hard drive to work. Forget cheap Seagate drives, they just aren't fast enough. Quantum hard drives are okay, too, but you will need to keep a spare partition for recording to disk. I used a 40Mb partition permanently kept clear and only used for direct-to-disk sampling, which works fine. You'll also need some true Fast RAM – 3Mb is probably the least memory you should have, although you will be pleased to know that an accelerated processor isn't really necessary for the AD1012 card, as most of the hard work is done with the card's own processor.

SAMPLING

Let's look at the card in action, and its primary task of sampling. Sampling is simple – far simpler than on any other sampler I have used (and I've used quite a lot).

Link up the Audio to your audio source (sampling from DAT or CD gives the best results, but I was able to sample well from every input source, including an old Walkman). The *Studio 16* software makes recording easy. Everything is software-controlled. The input level and sample rates are both controlled by a slider. You can also affect the output signal in real-time, so you can hear exactly what you will get sampled through the audio-out port which means an end to all the sample test-runs which were previously necessary.

Once recorded to disk, samples can be edited (although at the moment the edit options are relatively limited compared to top-of-the-range 8-bit sample programs such as *Audiomaster III* and *Audition IV.* Editing is adequate enough for most tasks and, once edited, your samples can be saved in a variety of formats including 16-bit IFF, 8 and 16-bit AIFF (Mac format), 8-bit IFF (8SVX), 8-bit RAW, and CDTV Raw (for the creation of CDTV audio tracks).

Once samples are converted to 8-bit IFF, you can load them into *AudioMaster III* or *Audition IV* for further editing (although you will need to load the entire sample into memory for these packages, so make sure you have enough RAM!). Sampling with the Sunrise 12-bit sampler has given me the best quality 8-bit samples I have ever heard!

MIX WELL

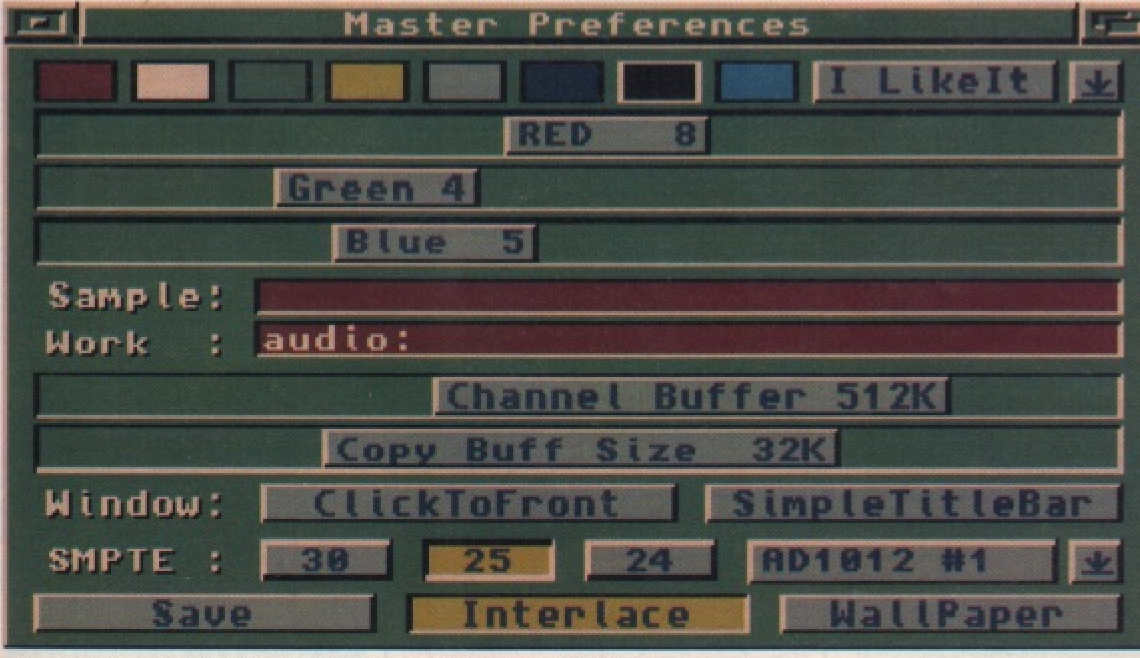
Another module included in the *Studio 16* package is the Mixer. You can combine the incoming Audio-in signal with playback from up to four 12-bit samples playing back direct from hard drive (this is where hard disk speed really is important!). There are two mixer panels – the standard Mixer and the Tiny Mixer – which are functionally the same, but differ in size. Once you have remixed your audio creation with the mixer, you can re-record it to the disk directly.

The neatest part of the *Studio 16* package has to be the Meter windows. These offer an accurate VU meter display with either a traditional analogue panel, or a more up to date digital 'LED' display. It's easy to keep your signals to the right level, as these panels are always active when displayed. You can have up to four meters active on the screen, showing either the input, output or the four playback channels. The other major asset to the *Studio 16* package is the Cue List. This allows you to string together a collection of 12-bit samples to replay in a sequence at particular times. Great for doing soundtracks for home movies, but I must admit I've never needed to use it myself.

CONCLUSION

The advantage of 16-bit-quality samples over the 8-bit stuff we have been used to is pretty obvious. The only downside is that if you do sample to this level, you'll have to record to tape for anyone who doesn't have a AD1012 card to be able to hear them (until Commodore launches their new machine with the Roland DSP in it anyway).

Having used the *Studio 16* and the AD1012 card for over 6 months now for several commercial CDTV productions where professional-quality sound is essential, the Sunrise card has changed my views of Amiga sampling forever. I never want to use another 8-bit sampler again! If you've got an Amiga 1500/2000 or 3000, and you really want to play with sound sampling, you must get hold of the AD1012 from Sunrise. Quite simply, it's the business.



Even the master preferences screen is part of the modular window control system.

STUDIO 16

...at a glance

• 1500/2000/3000 card • features Digital Sound Processor • Mono Only • Sample rates up to 88kHz • Supports AIFF • 8SVX, 16-bit IFF and CDTV formats • Records direct to disk

ADDRESS: The Sunrize board and software is available from HB Marketing, Unit 3, Poyle 14, Newlands drive, Coinbrook SL3 0DX. The price is set at £399 including VAT.

SUNRISE £399

You'll never want to use an 8-bit sampler again...

EASE OF USE	92%
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STAR	Star LC 24/200	£6.99	£32.99	£12.99	£59.95
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CITIZEN	120D+/Swift9	£4.99	£22.95	-	-
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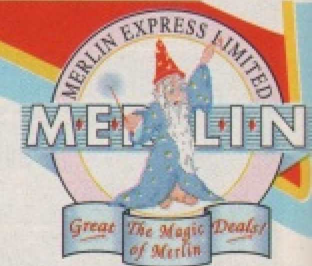
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SWITCH

Alfascan Plus

Gasteiner have just released a potentially-exciting 255 shade greyscale hand scanner. Mat Broomfield finds out if it lives up to its promise.

DOING IT YOURSELF

DTP software, such as *Pagestream* and *Professional Page*, have transformed the home computer market. When used with relatively cheap, high-quality printers such as the Star SJ48, or the Canon BJ-10e, these inexpensive packages let even the humblest Amiga owner create their own newsletters, club magazines, adverts, and anything else that may take their fancy.

Of course, printed matter tends to look pretty drab if it doesn't include illustrations and, for many users, the vast selection of Public Domain and commercial Clip Art is more than adequate. However, to add a really personal touch to your productions, you need to include some scanned images. There are a number of units available, and the Alfa Data/Golden Image scanners have traditionally been seen as among the best. Now Alfa Data have just released a professional model, the Alfascan Plus, which can produce 256 greyscale scans, and is capable of full optical character recognition.

Line art scanning is ideal for working with completely monochromatic images.

BODY SCAN

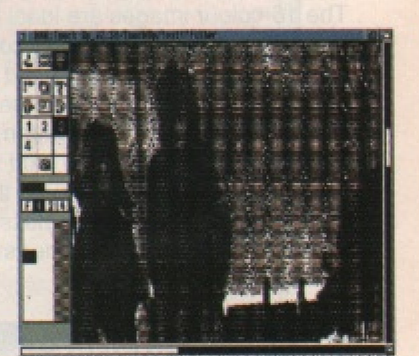
The Alfascan is a handheld unit which, apart from its logo, looks identical to the Golden Image and Pandaal scanners. It has a scanning head at the front, capable of digitising images up to 10.5cm wide, so A4 images will need to be built up with two successive scans. At the left-hand side of the unit, there is a four-position switch which lets you toggle between the four scanning modes (three dither modes for photos, and a line art mode for scanning monochrome images). The start button is just in front of the scan mode switch, and once the accompanying software has told the unit to start the scanning process, this button will turn the scanner on and off.

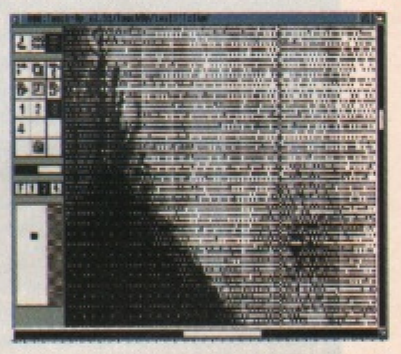
At the right-hand side of the scanner, there's a variable contrast wheel which can be used to adjust the way the unit interprets areas of light and dark. This is particularly useful as it can be used to adjust the balance when scanning very dark images so that no definition is lost.

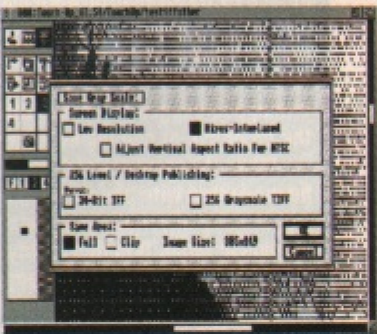
There is also a resolution switch at the right of the unit, and this has four settings between 100 and 400 dots per inch (DPI). By adjusting this switch, you can tell the Alfascan how many pixels per inch should be used to recreate the image. For example, if you were scanning an image two inches wide, at a resolution of 200 DPI, the resulting bitmap would be 400 pixels wide.

A QUESTION OF SIZE

This has several uses. In the first place, lower resolutions use up much less memory, which is just as well, because the Alfascan software is extremely RAM hungry. It's also important to understand the relationship between scanning resolution, and the output size and resolution of your printer. Supposing you scan a two-inch image at 400 DPI, then print it one inch big on a 180 DPI printer, much of the detail of the image will be lost. A 100 DPI scan would have been much more appropriate. Of course, a scanner's no good without software, and the Alfascan is supplied with *Touch Up*, *Merge It*, and *OCR*, all of which are from Migraph in Washington State, USA.







The *Touch Up* package supplied with the Alfascan bundle is an excellent complement to the unit.

Touch Up is the software which lets you scan pictures, and it has a built-in art package so you can tidy your scans before saving them to disk. Although the art package only handles monochrome images, it includes a lot of *DPaint*-style drawing tools (such as line, air-brush, circle, variable fills, etc.). To be honest, I doubt the usefulness of this part of the package as *DPaint* is a lot easier to use, and I prefer it to *Touch Up* simply because it's more intuitive.

Touch Up also includes a separate menu of scanning options, and as far as I'm concerned, these are the sole reason for the program's existence. As I mentioned earlier, the program is extremely RAM hungry, and although the Alfascan will run on a

Alfascan Plus

1Mb Amiga, Migraph indicate that you'll only be free of memory problems if you have 3Mb or more. Using a1Mb Amiga and scanning at 400 DPI, the program only lets you scan a two-inch strip. Worse still, it's very easy to crash the program if you inadvertently try to exceed the memory limitations of your Amiga. At 100 DPI, even on a 1Mb machine, you can easily scan a 12 inch strip.

FILE FROLICS

Once an image has been scanned, it can be edited or saved. The program is quite clever because a single scan can be saved in a variety of formats. For a start, it can be saved as a standard dithered monochrome screen, which produces an image which works in a similar way to newspaper pictures – ie. the entire picture is made up of black dots. Dark areas have densely grouped dots, whilst light ones have a sparser formation. This image format is particularly useful if you have a high definition output device such as a laser printer, because it produces the highest level of detail.

Alternatively, images can be saved as 16 or 256 greyscale IFF screens. Obviously, in the case of the 256 greyscale images, 24–Bit IFF images are produced, and these may only be used with a package capable of displaying or outputting them. The 16-colour images are ideal for use in graphics demos, and are fairly easy to colour in using *DPaint*. They're also well suited to low resolution printers. Incidentally, the manual supplied with *Touch Up*, although well-written, has been quite annoyingly laid out. All the stuff you need to learn the program is hidden away at the back of the book, whilst the (initially useless) reference sections occupy the front – rather strange, but just a little niggle.



Once saved out as an IFF greyscale image, a 16-colour scan be used with DTP packages or as a normal screen which you can colourise.

This is the kind of image that *Touch Up* generates by default. It uses variable dot density to create the illusion of light and dark.

CONCLUSION

The new Alfascan Plus is certainly an improvement over earlier Alfadata/Golden Image scanners, but it still has the same irritating bug that makes it crash when you exceed its memory capacity. 24-bit IFF mode is, to the best of my knowledge, unique to this scanner, and as such it offers the only opportunity to work with commercial quality images.

The manual is mildly irritating, and may force the beginner to read more than he wants to, but the program is fairly easy to use and produces excellent results that more than justify the effort. The addition of *OCR*, makes this a truly professional tool, and will make a welcome addition to any serious user's hardware collection.

THE OCR SOFTWARE

One of the most interesting, if not strictly essential tools supplied with the Alfascan Plus, is a piece of software called *OCR*. This package, available separately for £199, will convert scanned pages of text into ASCII files which can then be edited with any word processor. *OCR* is a generic acronym for Optical Character Recognition, and there have been attempts to bring it to the Amiga previously, the most notable version being from a German company to accompany the Cameron Handy Scanner. What makes this version so special, though, is the sheer number of typefaces it recognises. Traditional OCR packages generally recognise one or two different typefaces, usually a serif, and a sans serif font such as Times and Helvetica. *OCR* can recognise 21 typefaces and, better yet, it can learn an infinite number of new ones.

As with phonograph recor
produced before actual pr
can begin.Usually the mas
which up to seven nickel n

Despite the awesome complexity of the behind the scenes processes involved, *OCR* proves extremely simple to use. This is helped by its straightforward manual. Simply scan a page of text, and tell it to process the image. The program then runs through a range of different analytical processes, from linguistic analysis, to linear composition. The idea being that it compares the bitmapped images to its own internal library of characters with the objective of coming up with an exact match.

When it has performed its own preliminary analysis, you will be presented with any unrecognised characters and asked to tell *OCR* what they're meant to be. These characters will then be added to the program's internal database so that when it encounters them again, it will automatically recognise them. It is this ability to 'learn' new typefaces that makes the program so very powerful.

OCR can handle multiple pages of text, and will even deal with multiple columns, ensuring that the continuity of a piece is retained. Although the basic process of scanning and interpreting pages is very straight forward, it's crucial that the scanner is set to the correct level of contrast. Too dark, and characters will merge into each other, too light and they will become truncated, in both cases leading to faulty interpretations. Of equal importance is the need to scan text in perfectly straight lines. One doesn't realise how wonky ordinary text can appear when scanned at 300-400 DPI. The trouble is, if you scan at a slight skew, *OCR* begins to confuse which lines pieces of text belong to. This, in fact, proved to be my greatest problem.

I can't think of a single occasion when I'd need this package, but I certainly wouldn't buy a scanner without it. It's just so much fun to play around with, and I'm sure that I'll need it one day. *OCR* requires at least two megs of memory and a hard drive in order to run, so it's a fairly exclusive program, and probably not one for the novice or casual dabbler.

ALFASCAN
. . . at a glance

• 256 Greyscale hand scanner • Saves 1_24_Bit IFF screens (2-256 shades) • Multiple Scan Modes • Likes a lot of memory • Includes optical character recognition software • OCR requires a hard drive

ADDRESS BOOK Alfascan Plus is available from Gasteiner Technologies Ltd, Unit 3, Millmead Business Centre, Mill Mead Road, London, N17 9QU. Tel: 081 365 1151.

GASTEINER £169

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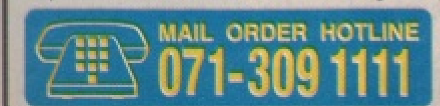
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maple V

If you can't differentiate between Laplace and 'The Time, The Place' maybe it's time you sought help. Is *Maple V* one of the higher powers in processing? Stewart C. Russel examines the variables...

BASIC MATHEMATICS

I don't integrate well. That's not to say I'm not passable company at parties but, I seem to lose terms somewhere along the line, resulting in bogus answers. All through school I could do the difficult bits, but fell over badly when it came to confusing things like adding up terms.

We're talking mathematics here, if you hadn't twigged. Digital computers have long been used to solve numerical problems which are too complex or time-consuming to work out manually. All digital mathematical routines suffer from a limited precision, causing deviations from the correct solution and, at worst, instability problems deeper than the original problem.

In the early 1960s, work began on mathematical routines free from the limits of finite precision. Rather than treating rational numbers as bit-patterns, these programs kept the rational parts as distinct symbols. These could then be worked on by integer mathematics and algebraic rules, and the science of symbolic computer algebra was born. In those days, you wouldn't have got near a computer algebra system unless you already had a degree in mathematics, which kind of defeated the purpose of the whole project. With *Maple V*, we have an approachable system which cuts out the tedious mucking about with pen and paper and gets to the answer with minimal fuss.

This is *Maple* pretty much as it appears after startup. Solving complicated differentiation problems is wee buns to *Maple*, but try doing this in two lines of Basic.

Every entry in the sizeable Library reference manual is available online, so you can check your parameters whilst you're working.

Not only does *Maple* solve all your equations for you, but it also formats the output so you can just copy it down into your homework book...

BOX OF DELIGHTS

The *Maple V* system comes in a medium-sized, but distressingly heavy box. Most of the weight is in the enormous manuals – two hardback volumes covering the language and its libraries, and a spiral bound tutorial. The system is distributed on four leaf-green disks, which are packed together with a slim guide to the Amiga specifics. Installation is straightforward but slow as the disks contain huge archives which unpack to form literally thousands of files, making a hard drive essential.

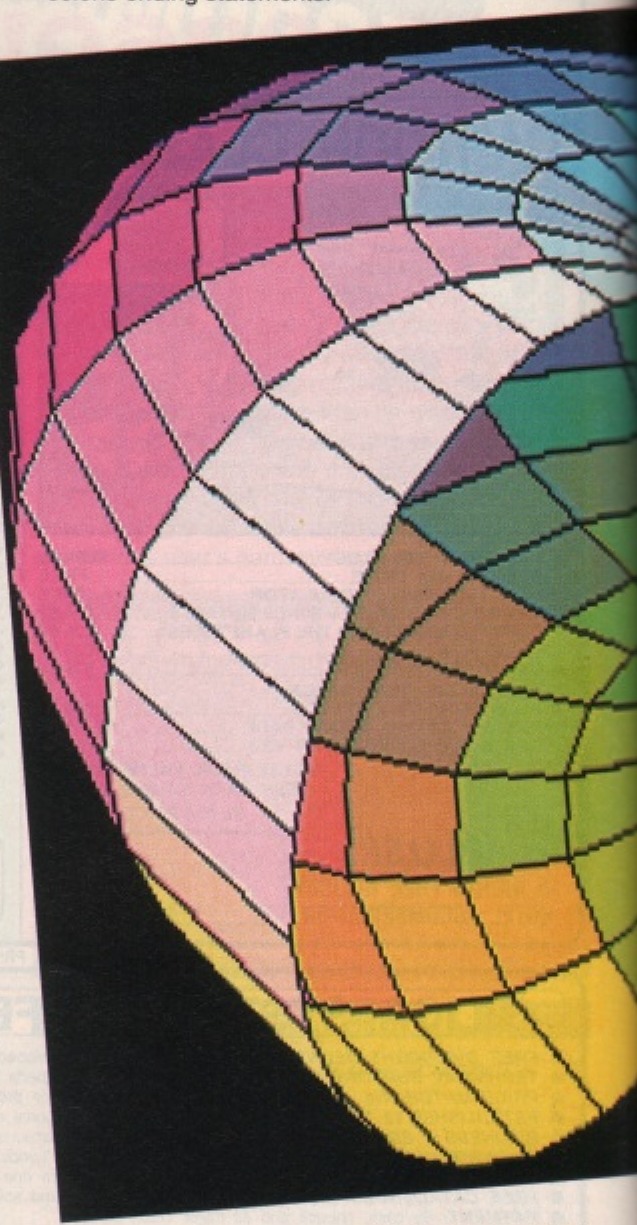
Other goodies in the box include a technical newsletter full of useful things produced with Maple, a non-technical newsletter with a mix of articles and sales blurb, and most importantly, a 'Maple – The Future Of Mathematics' poster.

UP AND RUNNING

Maple is possibly the most demanding on resources of any Amiga program. It requires Workbench 2, 8Mb of disk space, and 2Mb of RAM just to load. More memory would be a good idea: 4Mb is the recommended amount, as I managed to run out of space a couple of times with three. What may seem surprising, though, is that the system doesn't require a maths coprocessor. Symbolic mathematics doesn't use floating-point unless you ask it to. A coprocessor version is supplied, though, as the graphics plots use floating-point arithmetic.

The system brings up two windows which totally cover the Workbench screen. The small lower window takes the input, which is echoed and acted upon in the upper window. Command line editing is very basic, with only cursor controls and a history buffer of all previous commands.

Maple V's syntax is similar to that of Pascal, with ':=' assigning values to variables, and semicolons ending statements.



Where it differs from just about every other language, though, is in its ability to handle unevaluated statements. Feed another language a statement such as '2*x-4=0', and more than likely it won't make much of it. Courtesy of some cunning code, *Maple* looks at the statement and creates a variable 'x', to which it

SIMPLE SUPPORT **Waterloo Maple Software have a complex product here, and they really do need to look after their customers. Thankfully, they do that very well – my electronic mail queries were answered overnight. The replies were very full and useful, even to the point of suggesting alternative ways of obtaining the same result. Customer service is also, shall we say, prompt. The company is based in Ontario, which happens to be quite a distance from here. I faxed my software order in one evening, and the big *Maple* box was on my desk in the morning, which is better than mail within my town.**

assigns the exact value of two. Unless it is told otherwise, *Maple* will substitute '2' for 'x' for the rest of the session.

To ensure that your *Maple* routines are correct before running them, a command line-based debugger is supplied. Any errors are highlighted in an output file, and that's the limit of its interaction. A debugger (called Mint) will also be supplied with the package by the time you are reading this.

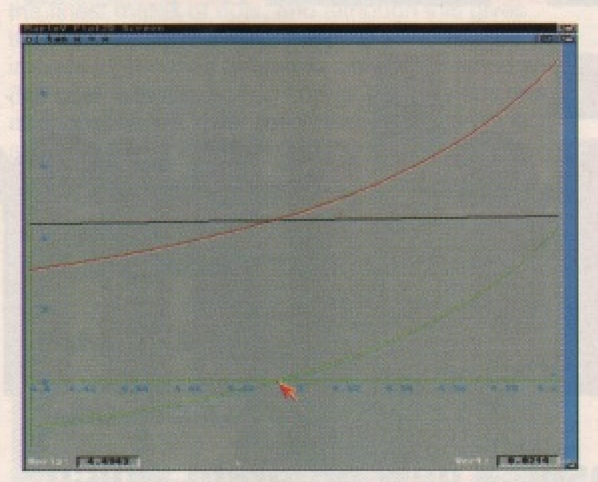
PACKAGE TOUR

Simple algebraic manipulation isn't tremendously difficult to achieve, and the real clever stuff comes in the huge packages of rules which *Maple* uses to push the symbols around. Geometry, linear algebra (matrices and vectors), logic, number theory and statistics are just some of the subjects covered. As a mechanical engineer, many of the more 'pure' maths functions meant little to me. But for differentiation, integration, and solution of all types of equations, *Maple V* worked quickly and with perfect accuracy.

It's hard to say how fast Maple runs, but for most engineering solutions, one hour of manual working could be done in one minute. That may be a wild generalisation, but the idea here is that it sure beats pushing paper around all day.

HARD GRAPHED

Numbers and equations don't give any clues to their behaviour. Would you immediately know the shape of the function 'z=(1.3)^x*sin(y)' plotted on a spherical coordinate system? I wouldn't, but *Maple* showed me it was rather a nice seashell



A two-dimensional plot is sometimes useful for finding a graphical solution to a problem when more 'pure' methods fail.

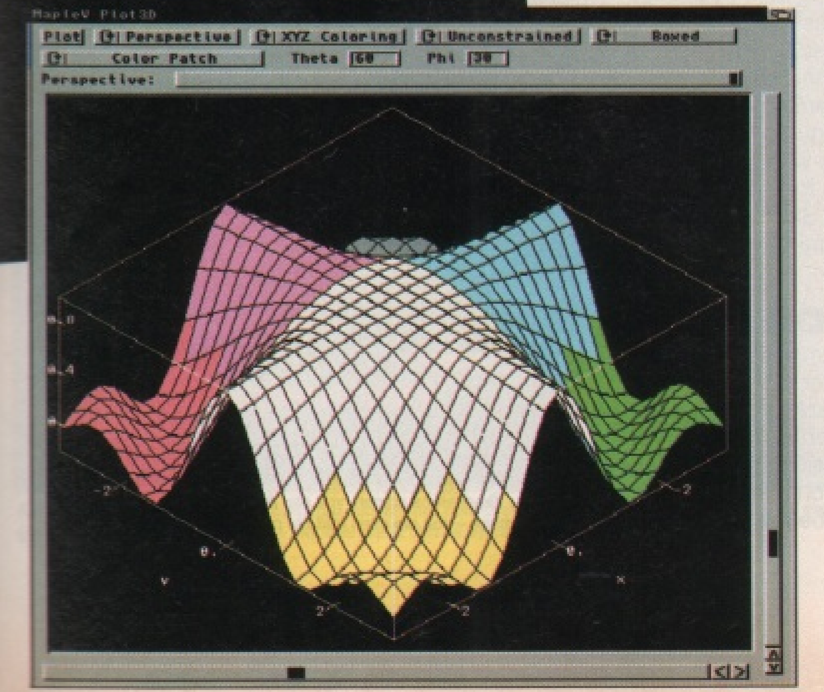
shape. The system has two functions for plotting functions, plot and plot3D, which, unsurprisingly, work in two and three dimensions respectively. The routines call up external programs to do the actual plotting, allowing the main *Maple* program to be standard across all systems.

The 3D plotting program makes particularly pleasant use of WB 2.04's new cyclic gadgets. Perspective can be altered to produce bizarre distorted plots if desired, but the default settings generally produce sensible results. Any resolution of screen can be used for the 3D plot, right down to low resolution non-interlaced. Unfortunately, the greater number of colours available at this resolution is not available to *Maple*, as it uses a simple portable graphics library.

Plotting is much less controllable, with the scale of the plot being changed by resizing the window. Clicking in the plot window produces a read-out of the X and Y coordinates on the graph, which can be useful for finding starting values for difficult solutions. Both routines can output PostScript graphics for more advanced printers, and 3D plots can be saved as IFF bitmaps. The PostScript output is rather basic, printing one plot per page, but a PD routine is available from another developer which converts the data to Encapsulated PostScript for DTP use.



Below: A three-dimensional plotsgives an idea of how functions vary across a field. There is a lot of maths involved here.



READ ALL ABOUT IT

Unlike other systems, *Maple V* comes supplied with all the documentation you'll ever need. The hardbacked Language and Library Reference manuals are well laid out, properly indexed, and are a joy to use.

Much of the time spent installing Maple actually goes towards putting the huge help files onto your disk. They contain most of the Library Reference Manual, which itself is nearly 700 pages thick. Just put a question mark before any function name, and a full help entry is brought up, in many cases complete with examples. The third manual is a very detailed tutorial covering just about every aspect of this gargantuan package. I was about to complain about its poor presentation and errors in its layout when I found a small apologetic note in the box. It seems that the tutorial is not quite finished, and the final version will be sent out to registered users.

CONCLUSION

As Amiga software goes, *Maple V* is expensive at over $300 (a UK price is yet to be set). It's also not going to be of use to everyone as, unless you have to use mathematics regularly, it isn't for you. You also have to know what you're doing. *Maple* can't think for you, only amplify the ideas you already have – the same goes for pocket calculators, and they were pretty rare twenty years ago. Computer algebra has gained such a widespread acceptance that some colleges are no longer teaching the drudgery of mathematical techniques, merely showing the students the way to the computer lab. It's good that such a major package has made it to the Amiga. Take the ratings box whichever way you want: how would you put a percentage on the future of mathematics?

MAPLE V

. . . a t a g l a n c e

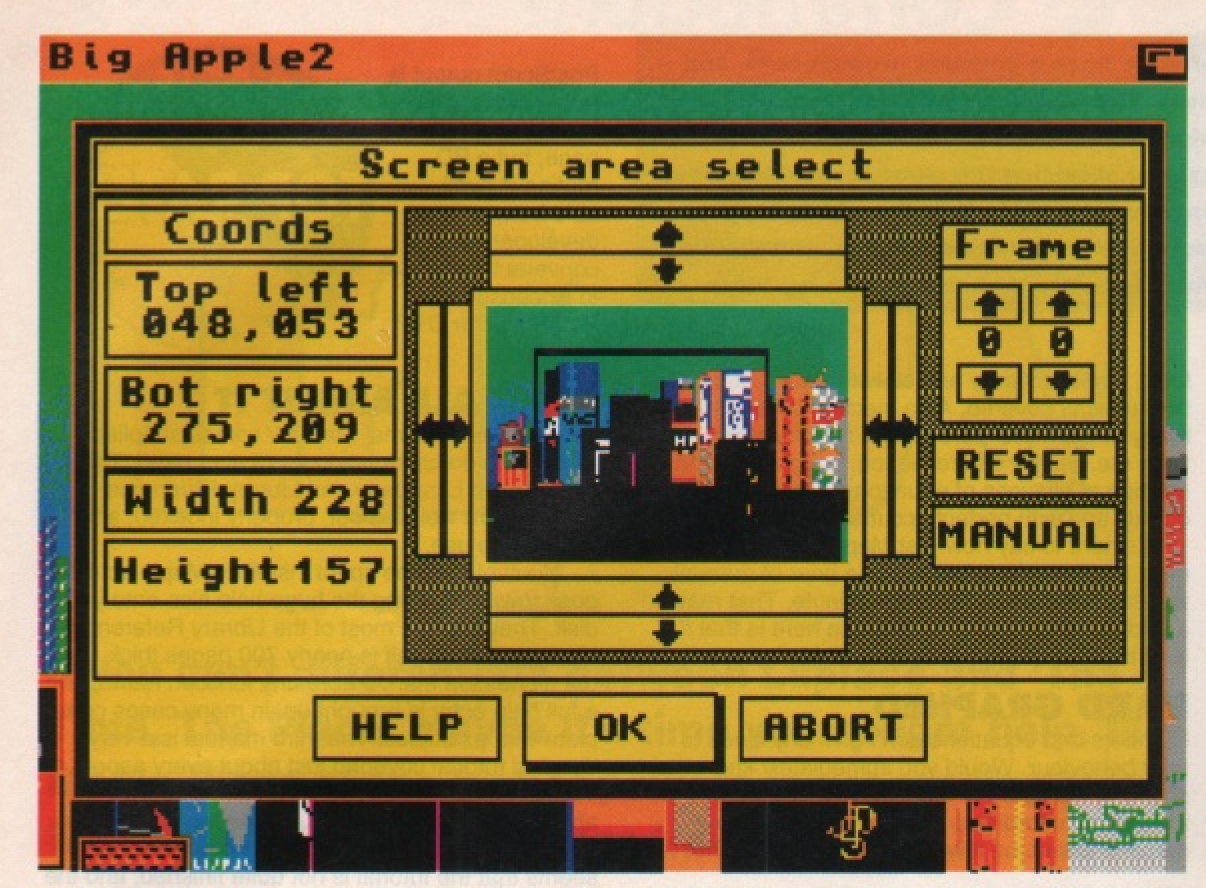
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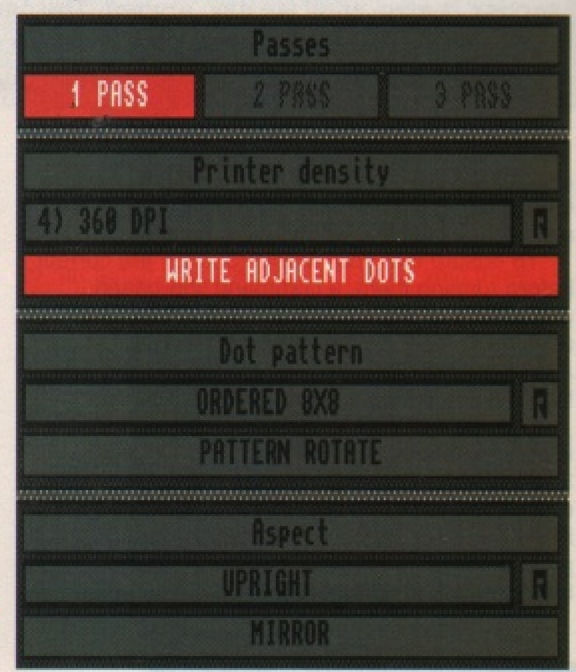
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Left: From this screen the user can specify any rectangular area of the screen for printing. Whilst the screen below is the main menu screen, where all the defaults can be set.



flexidump 2

Care Electronics have released a new program which promises to improve the performance of your printer. Mat Broomfield gets graphic and tells us why...

PRINTER DRIVERS

Unless you own a laser unit, the chances are that you're not getting the best out of your printer. No need to feel guilty, it's not your fault. The problem lies with the standard printer drivers supplied with Workbench. When using a colour printer, colours often merge into each other and become muddy, and this effect is made worse when producing greyscale dumps using a monochrome printer.

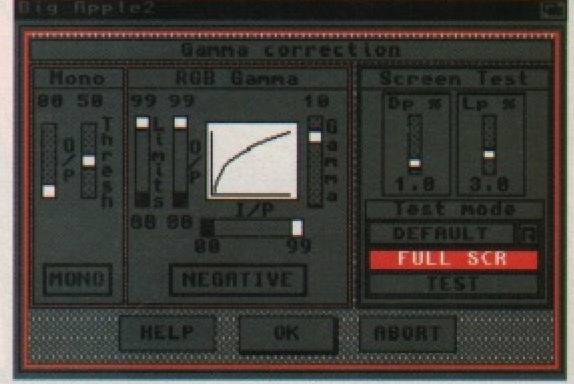
Care Electronics' *Flexidump* program is already well-known for the improvements it offers to colour printer users. However, the latest version of the program, *Flexidump 2*, promises major improvements for monochrome users, too. The main program screen is brimming with gadgets, and looks quite busy. There are also four pull-down menus containing additional options. Although *Flexidump* completely bypasses the standard Amiga printer drivers, it still requires customised printer files to operate, and several are supplied on the custom disk supplied with the program. If there isn't a driver for your printer, you can create one using the Custom program which is also on the second disk.

VIVE LA DIFFERENCE

There are now two versions of the program: one for ordinary dot matrix printer users, and another which takes advantage of the improved specifications featured in bubble jet printers. Although the latter version is the subject of this review, both include the same options. Having loaded or created a custom driver for your printer, a picture must be loaded. This can be an IFF image in any screen resolution or format (interlace, HAM etc) and can be as large as you like – memory permitting, of course. Now comes the interesting part – printing the image out. There's an impressive number of options to control the ultimate result, including colour separations, web dumps, image resizing, variable fill patterns and even Gamma correction. The program automatically configures itself according to the printer you're using, so with a Star SJ-48, for instance, *Flexidump* is set up for single-colour greyscale printing. However, if a Star LC-10 colour driver had been loaded, the program would default to full-colour printing.

PRINT PERMUTATION

There are three primary printing modes: Page Dump, Web and Poster. The latter option is designed to print images which are larger than a single sheet of paper (up to 10 feet along each axis). Web is the complete opposite, allowing the user to print up to eight screens on a single sheet of paper. Page dump is likely to be the most fre-



Using the Gamma Correction option, you can increase the contrast of an image so that murky pictures look sharper when printed.

From the dimensions screen, you can determine the size of the printed image – you are even told the pixel to dot ratio.

LIMITATIONS

The major drawback as far as many users will be concerned is that you can only print out IFF files. This is fine if you want to print out pictures from *DPaint*, but as most applications use the standard preferences driver, unless they have a 'save to IFF' function you will not be able to use Flexidump to improve the quality of these images. Obviously desktop publishing is one area that springs to mind which would benefit from improved output. Perhaps future versions could intercept or interpret calls to a prefences device

quently-used option, though, as it relates to single print-outs of one page or less in size.

Having selected this option, the user will be guided through a series of sub-menus, through which the exact printing specifications can be defined. If, as will probably be the case, the defaults are satisfactory, simply keeping the return key pressed will skip through these menus and start the printing. Screen Area Select is one of the printing features that I found particularly useful, because it lets you isolate parts of the screen for printing, without having to output the whole thing. This becomes even more useful when used in tandem with the Dump Dimensions option, which lets you specify the size of the print-out on the page. Taking it to its most extreme example, this means that you could actually enlarge a single pixel to fill a ten-foot square! Incidentally, the Dump Dimensions menu also permits you to specify the output size to an accuracy of one tenth of a millimetre, and supports metric and imperial measuring scales. One final use for this menu is to distort the aspect ratio of the printed image.

Flexidump defaults to a ratio of 1:1 but, by adjusting the dimensions in one axis disproportionately, it's possible to stretch or squash the finished print-out. Perhaps the best feature of the new program is a colour enhancement section called Gamma Correction. Using this, it is possible to increase the contrast of the print-outs to compensate for screens which are either too light or dark. Although the Amiga can generate 16 shades of grey using a standard monochrome printer, only about twelve of these are discernable. Using standard printer drivers, the dithering pattern used to represent the different shades doesn't produce sufficient contrast to cope with the subtle differences between the darker colours. Using Gamma correction, you can 'brighten' the darker shades so they can be clearly distinguished.

The same operation can also be selectively applied to the lighter colours, or any shade in between. This is an exceptionally useful feature which performs in a similar way to the image enhancement systems used by NASA when they analyse photos of distant planets. It's great if you have a poorly-digitised image to be printed, because the contrast between its different elements can be increased, thus improving the clarity of the image. Although I found that Gamma correction worked well, the on-line help feature doesn't really offer much enlightenment as it's quite complicated to understand. Furthermore, the Test option seemed to produce some very strange results, and I suspect that a tiny bug may have crept into the program.

DOT PATTERNS

Another factor which affects the shading of a grey scale dump, is the density and dot pattern used to create the different textures and shades. *Flexidump* allows you to toggle between a variety of densities similar to those found in the printer preferences section of Workbench. It also gives you three different dot patterns for use. 4x4 uses the finest matrix of dots, and although this gives the most detailed level of shading, I felt that the images it produced tended to look a little smudgy. 8x8 uses a matrix half as fine as the previous one and, despite the lower resolution, produces nice sharp shading. The final dot pattern is called random, and as its name suggests, it uses a pseudo random pattern of dots to create light and dark effects. This results in a very grainy looking print-out which is quite artistic looking, but is only useful for limited applications.



The colour balance section lets you alter components of a screen, wich can then be saved to disk or printed.



COLOUR INKS

Thanks to the availability of coloured inks and ribbons for bubblejets and other mono printers, *Flexidump 2* now includes a colour separation section. This lets you create full-colour pictures by printing them in three or four passes, changing the ribbon (or cartridge) for a different colour between each pass. If your printer includes a reverse form feed feature, the program can automatically realign the paper for you between each pass. If not, you'll need to manually reposition the paper using either an autosheet feeder, or hand-drawn marks on the printer's casing! The program is also capable of two types of colour separation: CMYK and CMY. The former type uses a process known as undercolour removal and uses cyan, magenta, yellow and black ink to create the picture. The black component is used to create different shades of the various colours. CMY doesn't include any black, using equal amounts of the other three colours to create shades of grey and black. Thanks to these colour separation features, mono printer users can now enjoy full-colour output which rivals the most expensive dedicated colour printers.

CONCLUSION

Flexidump 2 is a very satisfying program which finally gives Amiga printer owners the power they probably expected when they bought their first printer. Although the on-line manual is extremely good, and can be printed (a page at a time!), I think it's really rather poor that the program doesn't include an already-printed manual – especially when you consider the package's price. This is an excellent and effective utility written by people who really know their stuff. If you own a printer, and you often use it to print graphics, this program should be right up near the top of your 'Get This' list.

Although they claim to be, most coloured inks are not pure cyan, magenta, or yellow. *Flexidump 2*'s sieve option lets you adapt the way the program uses each colour so that the required result can be achieved.

FLEXIDUMP 2

. . . at a glance

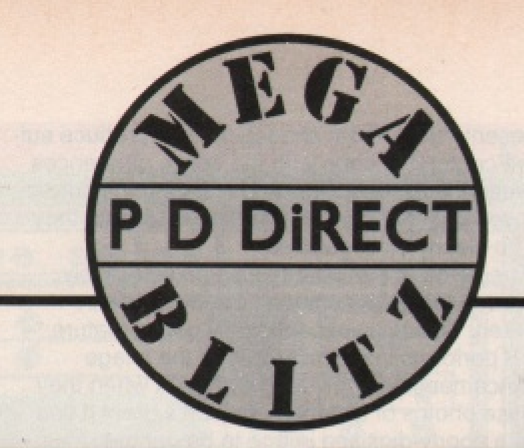
• Improves printer performance • Produces sharper, better defined print-outs • Prints colour pictures – even on mono printers • No instruction manual • Includes image processing options

ADDRESS: *Flexidump 2* is available from Care Electronics, 800 St Albans Road, Garston, Watford, Herts, WD2 6NL. Tel: 0923 894064.

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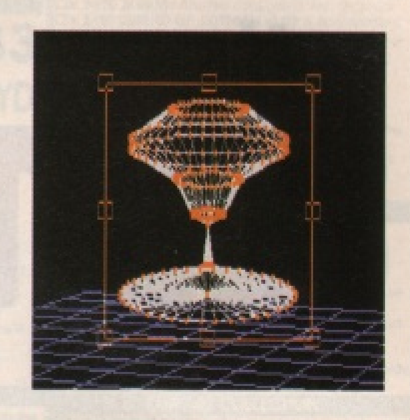
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expert 4D



Creating 3D models doesn't necessarily mean buying an expensive ray tracer. Mat Broomfield looks at an alternative.

BYE BYE TRI-VIEW

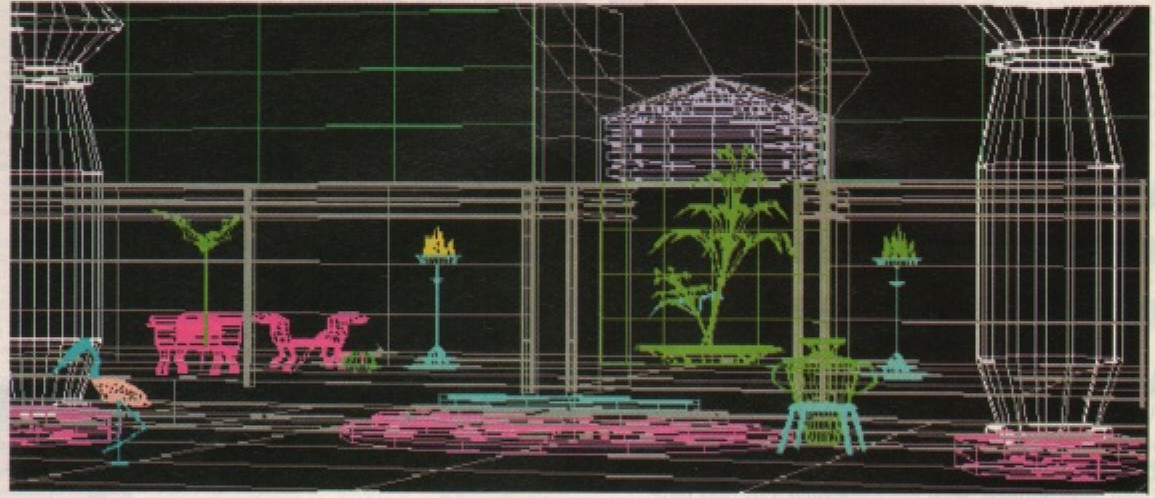
Ray tracing is fine if you have plenty of time to spare to create and render your models for ultra-realistic results. However, if you just require an accurate 3D representation of your ideas, perhaps to form the basis for further work in an art package, *Expert 4D* is a reasonably-priced alternative.

One of the main problems with ray tracing packages is the time they take to do anything. Even the simplest of objects can take hours or even days to create. In addition, many of the more popular packages use a system known as the tri-view, a three-window system used to depict objects and scenes from different viewpoints – usually top, front and side. Whilst this system is very flexible, and will be familiar to anyone who's studied orthographic projection, it can be extremely cumbersome to learn, and has dissuaded many a potential user.

Expert 4D forsakes that method of doing things, and opts instead for a single 3D perspective of the work area. The viewpoint can naturally be altered to suit the user's requirements, and personally I prefer this system of working because it requires less mental gymnastics to interpret what you're seeing on the screen.

PRIMITIVE OBJECTS

All objects in *Expert 4D* are created either from primitives, or extrusions and rotations of two-dimensional shapes. Primitives are simple shapes which commonly form the basis for more complex structures, and include cubes, spheres, disks, and tubes and can be altered to form more complex



Complex images such as this room are achieved by building up the image from a series of simple shapes. These can then be crushed and distorted to create more complex objects. These objects can also be converted to 2D as well.

objects – for example, a sphere could easily be compressed to form an oval. When selecting a primitive, the user is asked to specify the number of points comprising the shape. The higher the number of points, the smoother curves will appear, and the more potential there will be for subsequent modification. However, more points also equals more memory, and the program is far more RAM intensive than I would have expected. The minimum requirement is 1Mb, but even for relatively simple animations, Genisoft advise 3Mb as being a more appropriate figure. This is a pity, because users with over 2Mb of total RAM tend to be from the 'serious amateur' or professional end of the computer arena, whereas *Expert 4D* is aimed very much at the beginner's end.

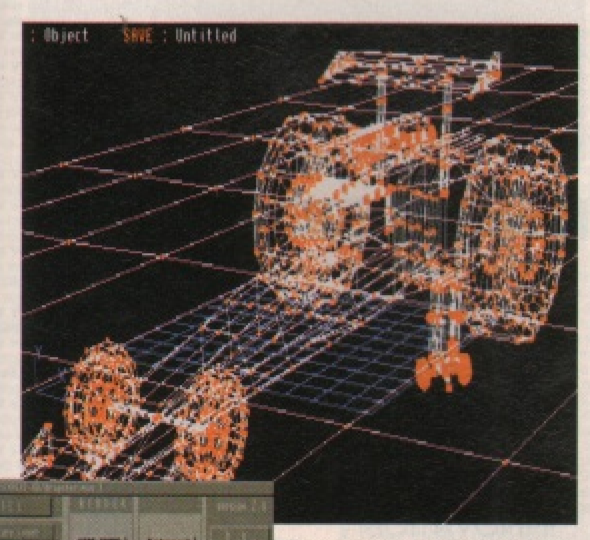
Whilst primitives are probably the most important element of object creation, the 2D-3D function is useful for generating objects which are circular in at least one plane (a vase or wine glass, for instance). This option allows the user to draw a two-dimensional outline which can then be rotated around any axis by up to 360 degrees to create a 3D object. The user can then add a few surface characteristics to it, such as colour and texture (shiny, matte, metallic, or plastic).

ACTION!

Once a scene has been defined, it may be animated by creating key frames, which represent intermediate stages of the 'film'. To generate a full animation, you need to load a separate program, imaginitively titled 'E2'. Using this, the user must specify the number of tweens – frames automatically created between the key frames created in the main program. Animations and single scenes can be created as wireframes, polygons or pixel images, and saved for importing into any animation player. The pixel image which works in HAM mode, generates the highest degree of realism, and is the nearest thing to ray tracing that the program can offer. However, it only traces light rays directly from the light source to the objects, taking no account of reflection or refraction. In my opinion, this is a good thing, as it reduces the number of calculations required to draw an image, and consequently increases the rendering speed factorially. The end result is an image which still includes shadows, and specular highlights, but that's about all. I must say though, the process is hardly lightning fast.

CONCLUSION

Expert 4D is an ideal beginner's package, having dispensed with most of the complexities of other packages. It wasn't as intuitive as I had initially thought, sometimes doing unexpected things in response to seemingly logical actions. The high memory overhead, for more complex scenes is a slight limitation, but as the general trend of Amiga owners is towards more RAM, perhaps Genisoft are simply thinking ahead?



Rendering such an image as shown above is controlled via a separate program called E2. Obviously, though, for a picture as complex as the dragster shown here, the rendering time will be enormous.

EXPERT 4D
. . . at a glance

• Manual a little too 'techy' • Slow rendering speed • Good price • Could be a little more intuitive to use

ADDRESS BOOK: *Expert 4D* costs £49.95 and you can buy it from Genisoft, Unit 6, Poyle 14, Newlands Road, Colnbrook, Slough, Berks, SL3 0DX. Tel: 0753 686000.

GENISOFT £49.95

Easy to use introduction to 3D – definitely worth a look...

EASE OF USE	85%
VALUE FOR MONEY	90%
EFFECTIVENESS	75%
FLEXIBILITY	60%
INNOVATION	50%
OVERALL	**78%**

the animation studio

What RGB Studios did for the natural world, The Animation Workshop is now hoping to do for the mechanical domain. Mat Broomfield takes a look...

WILD THING

When RGB Studios first released *Real Things: Horses* back in 1989, it received a mixed reception. What was the point of animated horses? Who would use them? Since then, though, RGB have released a further four products, each of which has met with a very positive reaction, both from the public and the press.

Now, The Animation Workshop, a small Lancashire-based company are releasing their own animated objects but, unlike RGB Studios, they've set their sights firmly on the mechanical world. Their first release is called *Red Lotus*, and contains a wide variety of anim. brushes, each depicting a red Lotus Esprit performing various manoeuvres. Once again, this is another departure from the way RGB do things, because they tend to produce sets comprising different creatures.

In sticking with a single subject for each set, *The Animation Studio* disks (*TAS*) restricts the potential market for the product – but for those users who require animations of a specific subject, they receive considerably better value for money. By providing multiple animations of the same object, *TAS* ensures that virtually every conceivable movement is faithfully captured.

WHAT WILL THEY WORK WITH? **The *TAS* animations are stored as standard IFF anim. brushes. This means that they can be loaded into *DPaint III* or *IV* and converted into full animated pictures. Alternatively, using a package such as *Cando*, *The Director* or *Deluxe Video III*, they can be overlaid on any existing pictures that you may have. Each set is supplied with a palette that can be loaded separately to set the correct colours.**

PEDANTIC PICTURES?

The objects have been created via a 3D rendering program to ensure the highest level of accuracy and, although this is very nice, I prefer RGB's policy whereby pixel accuracy is not as important as capturing the spirit of the subject. For example, in their *Star Voyager* animations, the ship features a lot of delicate fret-work. Although the animations are extremely detailed, at times this delicate lattice is rather obscured by more dominant colours and structures. Of course, one advantage to this rather technical approach to animation, is that the objects can be made to perform extremely complex movements with total precision. This is demonstrated by the rolls and turns performed by the two star ships (*Star Fighter* and *Star Voyager*).

Although the objects use 32-colour palettes, I saw no instance where more than a dozen colours were actually used. This tends to make the shading look a bit primitive (creating a very vectorised look). The opposite side of the coin, though, is that by using so few colours, it leaves the user with lots spare to create the other components of each animation (backgrounds, additional objects, etc).

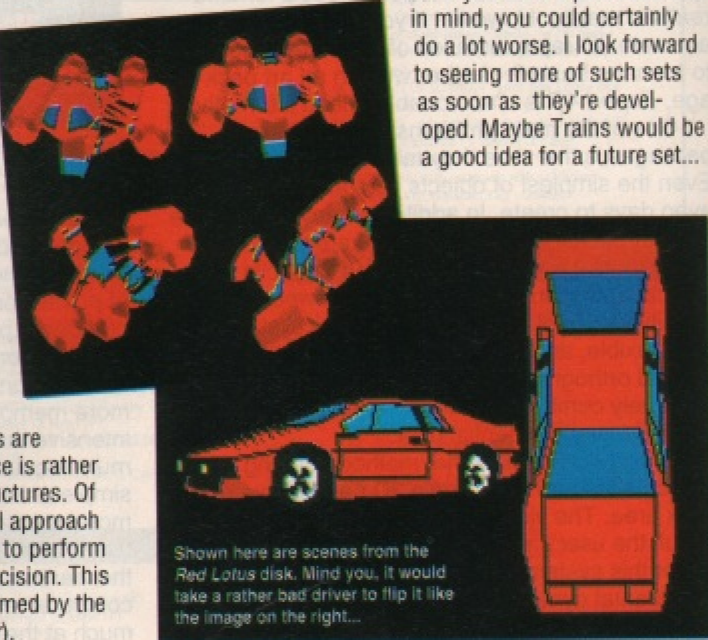
All the ships in the *Star* range use the same palette, and can consequently be mixed to your heart's content. The animations fall into two general categories: single movements, and entire manoeuvres. In the case of the starships, a single movement may consist of a ship rotating by 180 or 360 degrees. For the Lotus it may be a simple 90 degree turn. Manoeuvres may consist of a ship flying in from the distance, turning by 180 degrees, and flying off again.

BUT WHO ARE THEY FOR?

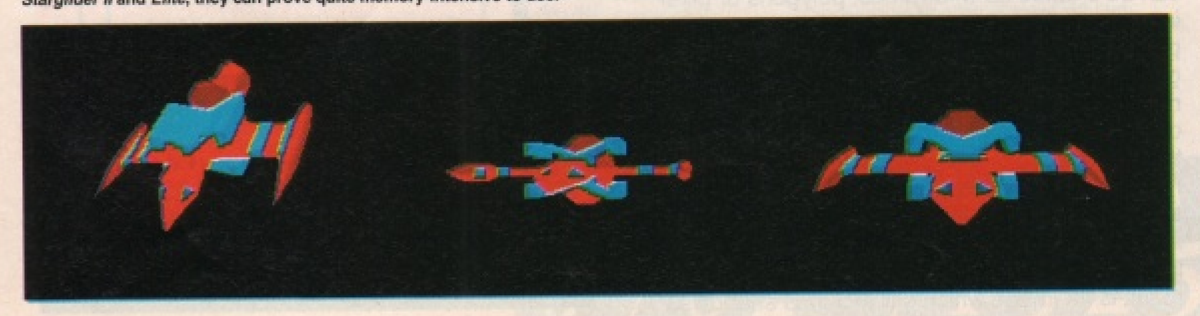
I doubt if these images are going to be used much by casual dabblers, but according to The Animation Workshop, they've received a great deal of interest from professional video studios. I can easily believe this, because I recently saw a commercial Amiga video (Dance In Cyberspace – reviewed this issue), which used many images of this kind, although admittedly not from this collection.

I suspect that genlock users will find these animations rather useful for adding a touch of life to their video titles and intros and, with a bit of effort, there's no reason why the images couldn't be chained together to create entire features. To be honest, one or two of the animations were a little jerky, but , on the whole, they were extremely smooth.

The animations are of quite a good standard, and can save users many hours of effort. They're all very specific, but if you have a particular use in mind, you could certainly do a lot worse. I look forward to seeing more of such sets as soon as they're developed. Maybe Trains would be a good idea for a future set...



Shown here are scenes from the *Red Lotus* disk. Mind you, it would take a rather bad driver to flip it like the image on the right...



Shown here are the spaceships from the *Star Fighter* disk in all their glory. Although they are more complex than those seen in the likes of, say, *Starglider II* and *Elite*, they can prove quite memory-intensive to use.

ANIMATION . . . at a glance

There are currently four sets available:

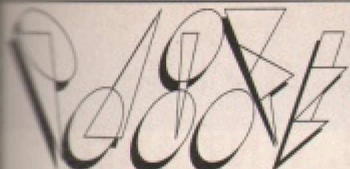
- Red Lotus – 1 disk – £14.99
- F15 – 1 disk – £14.99
- Star Fighter – 2 disks – £16.49
- Star Voyager – 3 disks – £17.99

ADDRESS BOOK Goldstar Computers, Omega House, 83 Railway Road, Leigh, Lancs, WN7 4AD. Tel (0942) 682205.

TAW £14.99-17.99

Interesting animations, ideal for the programmer or video users...

EASE OF USE	90%
VALUE FOR MONEY	60%
EFFECTIVENESS	65%
FLEXIBILITY	70%
INNOVATION	50%
OVERALL	**72%**



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MasterCard VISA

VARIOUS UTILITIES

V12 PLAY & READ (2) A collection of education programs for the under 7 year old's.
V16 FISH TANK SIMULATOR A program that emulates an aquarium. Visually pleasing.
V28 WORD WRIGHT & AMIGA SPELL, Contains over 1,000 words & more words can be added.
V41 DPAINT ART Conatins loads of pictures for you to mess around with. Loads into your Dpaint.
V48 TV & VIDEO GRAPHICS (8) Packed with background screens for your video productions, different types of graphic styles. **Peel,** takes an IFF picture & peels it down the screen, & *Much More.*
V86 VIDEO PRODUCTION (2) Both disks are packed with video & Genlock utilities.
V109 PRINT STUDIO Excellent for printing pictures etc. An excellent program for all printer owners.
V191 MASTER VIRUS KILLER Virus Checker & Killer. With Excellent options. Includes search disk.
V193 THE EMULATORS Covers Various **(2)** Formats which includes **CPM, IBM-PC & ST** Require 2 drives.
V194 M.R.BACKUP HD An excellent Hard disk back up program. Backs up all or any part of the drive.
V195 GRAPHIC INTERCHANGE Interchange graphics Between Atari St/PC Graphics to the Amiga.
V215 DISKMASTER v3.2 Copies files from one disk to another. **DISKSALV** Corrects & repairs.
V261 TEXTPLUS VERSION 3.0 This disk is not just an update but completly New Word processor.
V262 DUPLICATION & BACKUP: Super Super,Turbo copy, Sanity copy & PCopy. Four new copiers to backup your originals for save keeping.
V277 FORTRAN-77 v1.3c Compiler, linker & run time support library. F470
V279 CROSSWORD CREATOR A program that creates crosswords. UPDATED VERSION.
V284 MCAD PROGRAM The Object Drawing program for the Amiga ie CAD
V285 EDUCATIONAL : TYPING TUTOR A Simple typing which measures your speed on the keyboard.
V298 NORTH C v1.3 (2) The most famous C language on the Amiga, Includes all files required.
V301 EYE OF THE BEHOLDER HINT BOOK Inc introduction, Background, Maps, Strategy & Solution.
V304 CHAOS STRIKES BACK HINT BOOK Inc introduction, Background, Maps, Strategy & Solution.
V306 A-GENE v3.125 Lastest version of the Family tree program. Reviewed in CU Amiga.
V323 ANALTICALC SPREAD SHEET (2) This is the best spread sheet program to date on the Amiga.
V330 RED SECTOR EXTRAS DISKS (2) On this disk are 32 point Fonts, 16 Point fonts, vector stats, Star fields & music space Journey Loma. By The deadzone Troopers.
V332 AMIGA PUNT PROGRAM Predict which horse will win with this horse prediction program.
V338 TRANSFORMER v3.3 This is the Latest version of the IBM Emulator disk. Require an MS-Das disk.
V339 SPECTRUM EMULATOR DATA DISK 1: Adventure Classics needs v216 or v443
V340 TSB VECTOR DESIGNER The Special Bothers presents The TSB Vector designer **v1.1,** This program will create filled vector objects, line vectors & Bobs.
V341 CLIP ART COLLECTION 2: Eight more disks fully packed with excellent clip art. **(8)**
V350 BUSINESS CARD MAKER Design your own business cards on the Amiga.
V354 FREECOPY Removes protected games copy protection so that the user can install them on his/her hard disk.
V365 RED SECTOR MODULES (MUSIC) : Various music modules for use with the RSI Demo Maker .
V366 600 BUSINESS LETTERS There are over 600 standard business letters on this disk. Can be used as they are, or insert some parts into your own letters/text.
V390 THE DESK TOP PUBLISHING PROGRAM The first amiga PD Desk Top Publishing program. Includes various extra features over the old Word processor, Test editor, Graphics editor & loads more.
V392 AMICASH BANKIN The best bankin program that i have ever used on the Amiga. easy controls.
V394 CHEMESTETICS A program that draws molecules using the calotte model. Excellent effects.
V401 WINDOWBENCH v1.0 (2) An excellent Work-bench II replacement for all v1.3 users. Recomended.
V410 PDS UTILITIES No 1: PRINTING UTILITIES PPType, PPShow, ABFD, View, Tiny Print, **FASTJET,** A program for Deskjet 500 users you want to use the resolution enhanced graphic set. **GWPrint II .**
V413 WORKBENCH 2 & WORK STATION This is not just another workbench clone. It's a collection of utilities with the Workbench theme. **(2)**
V415 VIDEO SCREENS:1 Excellent back ground pictures for video production work. Nice back drops.
V417 SUPERBENCH & EXTRAS (2) An excellent re-placement disk with more utilities than the original WB
V420 CURSOR BASIC COMPILER Compile any Amiga Basic program with this utility disk.
V423 C: COMMANDS This disk is filled with utilities which can be used in Startup-sequences
V424 PDS UTILITIES No 18 Utilities include, **Anti-flicker** program, Said to stop the flicker in High Res. **ST Emulator** Program)to turn your amiga into an ST.
V431 IMPLODER v4.0 Reduces file size for sorage on hard drives our your own collection disks.
V433 ANIMATION STUDIO An excellent Animation creator for you to make your own.
V439 AMIGA C: MANUAL II This manual is the complete C manual for the Amiga & describes open & work with all parts of the C: system. It also contains various examples, some simple & some morecomplex all the way through the disks a tutorial is there to help you out. **(4)**
V443 SPECTRUM EMULATOR v1.2 By KGB Main updated feature is it now has sound ability.
V444 PRINTER DRIVER UPDATE DISK III Now contains instructionon how to install them. All previous drivers included on this disk. Over 90
V445 JRCOMM v1.02 This is the latest version of the excellent modem based computer program.
V463 SUPER C: COMMANDS The disk is not as full as some others but comes with full instrustion.
V475 P.SUITE v1.4 A collection of programs called **P-Write,** a simple word processor, **P-Draw & P-Render**
V479 CHESS & CHESS UTILITIES A collection of chess related Puzzles, Programs & Utilities.
V484 ADVETURE SOLUTIONS (2) Another good collection of adventure solutions for various games.
V489 AMIBASE PROFESSIONAL II The latest updated version of the excellent Database progam. now includes various excellent new features.
V490 MESSY SID II This is the latest version. It will read MS-Dos disks and tranfer any text files to & from the PC disk / Your Amiga. So you can do work on an IBM or an Amiga and swap text between them.
V493 DESKBENCH (3) This is an excellent Workbench replacment with special utilities.
V497 BEATRIX POTTER CLIP ART An excellent collection of clip art for any DTP program or Dpaint.
V498 THIEF SOUND RIPPER v3.0 Finds Sidmon 1, 2 (Midi), JHam cracker, future Composer, Sound monitor, Noise/Protracker, Startrekker, Delta, sound system, David Whiaker & Noisepacker.
V499 STAR CHART v1.2 This is an excellent star plotting program with some intresting features.
V509 MED v3.2 This is another update to the Ultimate sound music Editor program.

V515 THE A64 PACKAGE v2.0 (2) A very complete C 64 Emulator Actually runs faster that 64. Runs 64 basic. Transfers disks from your original 64 disk drive with a shareware lead.
V517 VIDEO & AMIN : VIDEO_DB, A program for keepin track on your video tape collections. **RTAP,** Lets you play large Anims on small Mem machines.
V518 IMAGE LAB This program is like a mini Art DEPT. **Tools On Tap,** Does fades, colourbars & gray bar.
V519 VIDEO: STILLSTORE Used to create over the shoulder graphic inserts like the 9'0 clock news.
V521 PLOTTING & GRAPHICS: PLOTXY, A very powerful full featured plotting prog. **PLANS,** A computer aided drafting prog.** Requires V522
V522 ARP V1.3 : Conman v1.4, Makes many im-provements to AmigaDos & makes your system easier to use. Includes full users developers guide.
V523 DICE C COMPILER (2) Mathew Dillons full feat-ured powerfull C compiler & enviroment system.
V525 LABEL MAKER v1.3 An excellent disk printing program. with various new features.
V536 CATALOGUE UTILITIES A collection of utilities used to Catalogue disk/ Video/ Tape collections **(2)**
V543 DISK STATION (2) An excellent workbench replacement with built in utilities like Sid and others
V546 KIDS PAINT A painting program designed for children. Includes various colours and speech.
V549 ELECTROCAD v1.4 Another Updated on the cad drawning preview written in Amos.
V550 KEFRENS POWER UTILITIES : NewTopaz, Power Fonts, Create, Edit or change any 8x8 or 16x16 fonts. **Window,** Change size of dos windows.
V554 R.S.I. MUSIC MODULES 2/3 Another selection of music from Red Section. **(2)**
V556 RED SECTOR HELP DISK Another disk to help you use the Red Sector Demo Creator.
V560 DUPLICATION & BACKUP II A collection of copiers like amigaCopy, Cader copy, Pcopy, Rattlecopy.
V567 PRINTER DRIVER GENERATORS A selection of utilities with various excellent Printer Driver Generators.
V569 DUNGEON MASTER MAPPER A littletool that creates maps of dungeons (and eventually towns) which can be used by a DM for use in a AD&D game.
V570 CHRIS HAMES UTILITIES : DIRWORK v1.51, Excellent file copier simulal to diskmaster & Sid but contains more commands to hand. Recommend.
V571 WHOM II v2.02 (2) An update to the Dr.Who database program. Gives all info on Dr.Who progs
V573 FILE & HARD DRIVE MANAGEMENT (2) : HDCLICK v2.0, A program selector to make Hard disk Menus. Starts with gadgets.**FILE MINDER,** Utility for maintaining files & Directories. **DOSCONTROL,** Tool that combines the functionality of many separate tools.
V575 HOME BUSINESS PACK (6) An excellent selection of utilities based on word processing, Data Management, Spread Sheets, Accounts & Printing.
V581 PDS PRINTING No 3 : PRINTER DRIVERS, HP Deskjet 500 & 500 Colour, Canon BJ10e, BJ130, BJ300, Nec24p, Oki24p, 39p, Star24p, Panasonic9, Seikosha9. **HPMODE,** For use with Deskjet 500
V582 DB A Database with upto 50 fields,max of about 1.2 million records. **CLICKDOS II,** An Amiga Das enhacement utility. **FILEFIND & SUPERVIEW v3.0**
V583 ICONEDITOR III v2.0, Can create Icons upto 640x200 pixels. **DOCTORICON v1.0,** Imports images as icons, Edit & Create any Amiga icons.
V584 EDUCATION : FASTFACTS, Everything you ever needed to know about the solar system. **WORLD MAP,** Produces different sorts of world maps. **PLANETS,** instant locations of plants. **MATH MOUNTAIN**
V585 ARCHIVERS A selection od most archivers, like LHArc, Zoo, LHWarp, Pak, LZ, PKAZip, Zap, Zippy.
V586 FONTS & C: COMMANDS : DISKSALVE, Repairs damaged disks. **SWEEP,** Free unUsed allocated memory.. **FONTASSIGN,** Assigns fonts to the SYS path.
V587 GELIGNITE FONTS (2) A selection of fonts for use with any DTP Package or Dpaint disks.
V593 TEXT ENGINE v3.0 Another excellent word processor program Simple but will do the job
V598 DATABASE WIZ This program will record all your Names & Address. Easy Database program.
V599 BBASE II v5.3 This disk is one of the most well known database program. Recommend.
V603 POOL FORCAST v1.0 Perm-Check is designed to check football plans for winning lines (1Mb).
V604 PD COPY v3.0 New disk copy with some extra commands & quick copy modes buit in. (1Mb)
V605 PRO CALC v1.0 Offers the C or Machine code programmer a 68000 or FFP calculator when is use. (1Mb)
V606 SAMPLE MAKER v1.0 This works specialy for those who are not able to make samples with a sampler.
V607 PRO TRACKER v2.1 Writen by Lars Zap Hamre. Another update to the Ultimate sound making program.
V610 GOLF SCORES v1.84 It's will record each round you play, Store it, make up an eclectic score NEW! You can also show graphs of scores & performance against par. NEWER! It will now work out stableford points.
V611 FOOTBALL LEAGUE EDITOR v1.0 Want to update your teams league position as the results come in
V620 ASPICE v3.2 Circuit Analysis, A full featured program for electric circuit analysis.
V621 EDWORD v2.2 is a fully featured & operational Word processor which offers all standard features & *More* like Powerful ones.
V624 NIB COPIER v2.0 Will copy in AmigaDos, Index Nibble modes, search mode & special parameter copy.
V625 NCOMM v2.0 Contains, LHArc v2.0, LHArca v1.02, Zoom v5.40, DMS v1.03, LHA v1.11, LHASFX v1.11.
V627 DPAINT FONTS No's 1-3 (3) The latest selection. Fonts for use with any IFF DTP Program.
V630 AMICASH Basically Amicash just keeps track of your transcations with your account/Bank, such as Direct debits, Cheques, Withdrowls.
V635 IBeM EMULATOR PACKAGE v1.05 IBeM is a CGA Colour IBM-PC emulator written to run on any Amiga This is a demostration version with a time limit of 15 minute. The shareware cost is US$30.
V636 SHADES & FADES: ANIMFADER, A utility to fade screens in & out. **SUPERVIEW,** Will display IFF pictures. **TURBOTITLE,** Will create subtitles.
V637 TWIN EXPRESS v1.1a (2) Trans any file direct from an Amiga or IBM Pc, By connecting the 2 machines to gether with a null modem cable. Board rate 115200.
V639 RADBENCH PLUS v2.0 This is not an upfate but a completly new set of utilities & WB replacement.
V640 PAGESTREAM FONT PACK 1 A selection of fonts for use with Pagestream or other DTP Packages **(5)**
V645 UEDIT v3.0a Word Processor with learn modes, Online Help, A teach Mode, Split windows, copy & paste, undo & other more standard features.
V646 SID v2.0 FILE MANAGER Sid can be used for various operations, The best is proberly the file copier.
V647 WORKBENCH HACKS A selection of Hacks that have been reviewed in CU Amiga.
V648 TITANICS CRUNCHER v1.0 Cruncher with help & various protect modes encludes speed changes.
V649 WP & SPELL CHECKING A Collection of utilities. **PP v1.4,** Decrunches Power packer files as they arre loaded. **SUPERSPELL v1.1, SPELLCHECKER v1.2, TEXTRA v1.11,** Word processor. **SCRAMBLER v0.1.**
V650 CHECKBOOK ACCOUNTANT Will manage your bank account with easy. Very good indeed.
V651 THE SUPER KILLERS V2.4: BOOT X v4.45, This is the best virus killer disk to date kills over 240 virus & may be more, Includes excellent killers. Including **VC v6.3, Zero virus III v1.20 & VT v2.39.**
V652 PAGESTREAM FONT PACK 2 A selection of fonts for use with Pagestream or other DTP Packages **(5)**
V657 PC TASK is a software IBM-PC Emulator. It allows you to run the majorit of IBM software with no additional hardware. CGA Colour. **NEW VERSION.**
V659 COMPUTER DIAGNOSTICS v9.1 Is theres a problem with your computer them what is it.
V660 HOME MANAGER This is a great all in one address book with an inventory database & To-do list
V661 MODELLING :VERTEX Allows you to create 3d objects without using the X, Y & Z views. Loads Sculpt 3d/4d, Turbo Silver & more Formats. **MAGIC TWEEN** Will metamorphasize any two pictures.
V662 DCOPY v3.0 PROFFESSIONAL You can select the speed of the disk drive, Copy modes, Dos, Nibcopy, Ver & safecopy. Loads of other features.
V666 MODELLING OBJECTS Contains over 20 vector objects in Image format. Perfect for use with Disk V662
V667 STAR TREK OBJECTS Contains the USS Reliant, NCC1701D & a ferengi plus a Porsche Car.
V668 PRODUCTIVITY / BUSINESS Stock Analysis program. **SUBSTORE** Log Magazines with search scans.
V669 CELLULAR AUTOMA This electronic model will allow you to simulate cellular circuits.
V670 ANDROIDS FONTS 1-7 Self installing font disks for use with DPaint programs (2 Drives Rec. **7** Disks).
V677 ANDROIDS VIDEO BACK GROUNDS A selectión of Background Pictures in IFF Format.
V678 DRAW MAP v4.0 (2) Will now generate any 16 colour palette with user control, New features include larger maps with national boundaries, improved help and printing. 2Mb. (1Mb version V263, 1.2Mb version V526 (2)).
V680 OPTIMIZER v1.0 This latest version of the Disk Optimizer. Re-Creates Disks for faster Loading.
V681 GAME TAMER v2.2 Get a hold of that extra hard game & Cheat with Game Tamer v2.2.
V682 DEKSID v2.05 Hexa & Ascii Editor for use with your Amiga's Software. Shareware $15
V683 SUPER LOCK v1.01 Seal your disks / Hard drives for your eye's only. Protects with a Password.
V684 FONT FARM A collection of utilities based around the subject fonts. Character Editor v1.0, Font master v1.0, ShowFont v3.3, Set Font v2.5 & more.
V685 ASTRO PRO ASTROLOGY The best Astrology program on the Amiga by far.
V686 MULTIDOS v1.12 This is another must for people with PC disks. After this program has been installed your Amiga drives can read IBM Disks.
V687 VIDEO WIPES A collection of IFF Brushs and back ground graphical effects.
V688 MAGNETIC PAGES v1.30 This Shareware program will create disk based magazines with graphics.
V689 WALT DISNEY CLIP ART A Collection of pictures from various Disney Films.
V690 WORKBENCH V2.04 UTILITES (2) This set contains the programs that should have been with WB 2.0. these powerful utilities take full advantage of the many NEW capabilities that are available in WB2
V692 RACE RATER v1.6 An excellent program for people who what information about racers.
V693 HARLEQUIN VIDEO ART & FONT DISKS Another video production background set of disks (3)
V696 POST v1.7 An excellent PostScript inter-preter for the Amiga which implements the Adobe language. Requires v39+ & ConMan v1.3+. UPDATE
V698 AGRAPH V2.0 Brings the world a cheap Amiga program to draw Bar, Line, Area & Pie charts, for reports or presentations. In a user-friendly way.
V700 PERM CHECK (PLUS) Is designed to take the chore out of checking plans for winning lines.
V701 STRATA v1.0 Strata is a landscape gener-ating program. It allows printing of them from any angle, from any position, & with any magnification.
V702 EASY RAMOS FOR EASY AMOS This is the first update for Easy Amos user's. Requires Easy A
V703 AMOS UPDATER DISK v1.34 This update is a major update to the software, For example, you can now directly update a version of AMOS installed on a hard-disc.
V704 AMOS COMPILER v1.34 Contaions the second Public Domain AMOS Compiler Update.
V705 MED v3.21 Another Excellent update to the famous music program Med.
V707 SCALEABLE CLIP ART (3) This is pack of completely new scaleable Clip pictures for Pro Draw
V710 AREXX TUTORIAL Includes several sample Arexx scripts & sample progs. Also APIG: Library.
V711 UNIX Contains a working demo of Minix, A Unix workalike. Minix is system call compatable.
V712 PROTEUS BBS An excellent program for modem & Hard Drive used to start their own BBS
V713 COMUGRAPHIC FONTS Contains 2 clipart style fonts & 4 actual typelaces for use with WB 2.04+ & desktop publishing and/or video projects.
V714 24-BIT Contains Rend24 which allows you to proof toaster generated 24-bit anims. Also util's to convert IFF's to IBM VGA/Windows readable format. Also contains latest JPEG file compressor.
V715 THE COMPLETE BIBLE With the entire text of the New Testament & Torah (Old Testament). 1Mb **(3)**

STAR TREK

AT05 KLINGON D7 CRUISER, fires torpedoes while passing by. **NCC-1864 RELIANT,** Very good anim indeed.
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AT17 THE TWOK NCC-1860, Reliant & the NCC 1701-A-Enterprise. **MENSCH ROBOTER.**
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Slideshows & Pics

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- **P32- Agatron 6-** From Tobias Richter
- **P33- Agatron 8-** More from T Rs stable
- **P40- Max's Art-** Very nicely done.
- **P41- Nemesis Prologue-** From Hanibal
- **P65- Agatron 12-** Fantastic quality
- **P67- Agatron 11-** Incredible standards
- **P76/7- Nemesis Chapt. 1-** The next chapter
- **P85- Robocop-** By Hanibal,*Unbelievable !!*
- **P89- Art for Arts Sake-** By Hanibal- Brill
- **P96/7/8- Ray Traced Slides-** Very Good
- **P101- Real 3D slides-** Breathtaking !!!

Animations (most 1mb)

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- **A10- Batman-** This is brilliant (by E S)
- **A20- Agatron 26-** Dry dock
- **A13- Agatron 2-** Includes F15 fighter
- **A61- Agatron 15-** Billiards & Lotus + F15
- **A63- Juggler II-** Very,very funny.see it !
- **A76- Agatron 30-** Millenium Falcon
- **A79- Agatron 33-** Probe &bird of prey
- **A83- Discovery Shuttle-** Very good
- **A87- Car-** Lotus & Unicycle, brilliant
- **A89- Agatron 22-** Includes aproach + more
- **A96/7- Light Cycle-** From Tron and Brill !
- **A98/9- Anti-Lemmings- 2 MEG**
- **A100/1/2/3/4/5- The Wall-** Exceptional
- **A112- Juggette II-** Another hilarious anim
- **A115- Agatron 27-** Book and others
- **A116- Agatron 28-** Disconnect, Beautiful
- **A117- Agatron 29-** Millenium Falcon
- **A124- Shuttlecock-** By Eric Schwartz
- **A126- Real 3D Anim-** "Real Pinball"
- **A127- Real 3D Anim2-** T-Pot and balls (?)

Music

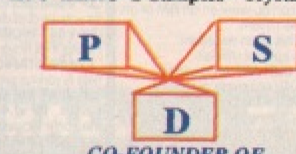
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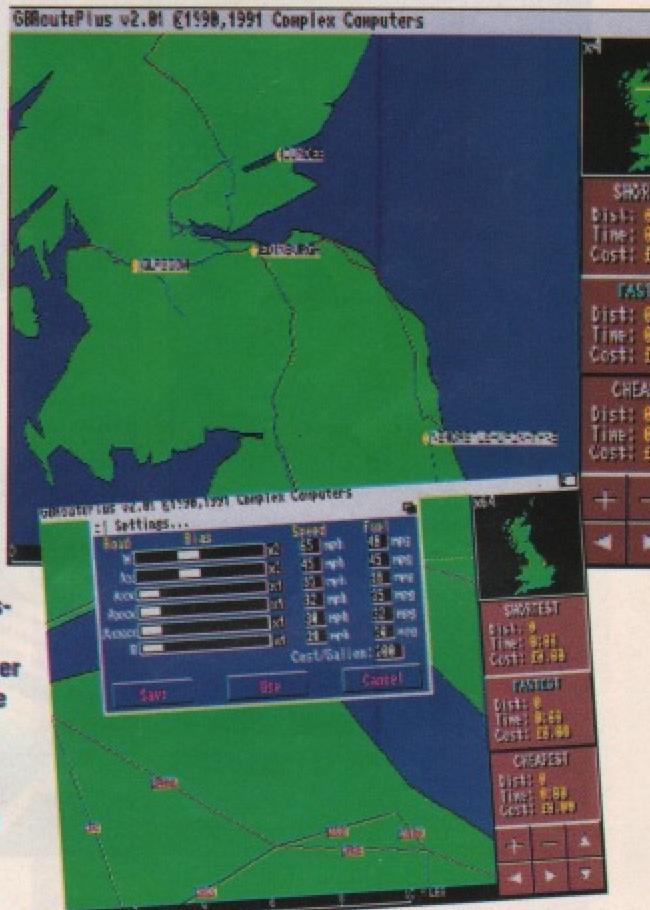
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CU AMIGA

Canon BJC-800

With colour laser printers costing more than a decent family car, Mat Broomfield looks at Canon's latest alternative.



LEAPS AND BOUNDS

Home computer technology has made massive advances over the last ten years. Graphics have advanced to such a degree that even an average user can produce top-quality digitised or hand-drawn images which are suitable for commercial publication. Thus, the single greatest limitation to your publishing aspirations, is the choice of printer to output your finished work.

Even if the printed copy is only for personal use, the output of most colour printers is a little disappointing and is, at best, a pale and streaky imitation of the on-screen images. Hewlett Packard offered one alternative with their Paintjet printer, as did Xerox in the shape of the 4020. However, although both printers used bubble-jet technology, their resolution was not particularly high, and their colour mixing left something to be desired.

THE SUCCESS STORY CONTINUES?

Building upon the success of the BJ series of monochrome bubble-jets, Canon have just released the BJC-800, a 360 DPI printer which has caused quite a bit of excitement within the professional market. The big question is: does it justify everyone's enthusiasm? Measuring 20.5x16 inches, the printer is quite large and would make a serious impact on anyone's desk layout! As it's been designed with the business user in mind, it has good paper handling which includes a 100-sheet paper bin at the front. Additionally, it can't handle sprocket paper, but it will accept transparencies, envelopes, and cut sheets up to A4 size.

Ink is delivered to the 64-nozzle head via four long looping tubes which in turn are linked to the ink cartridges slotted into the front of the printer. Unlike colour printers which use a ribbon, these cartridges can be changed individually, which is essential as this can be quite costly, and the black ink is used at anything up to ten times the rate of the other colours. The BJC-800 also includes Epson LQ2500 emulation, and the standard Epson Q driver from Workbench worked perfectly in all modes.

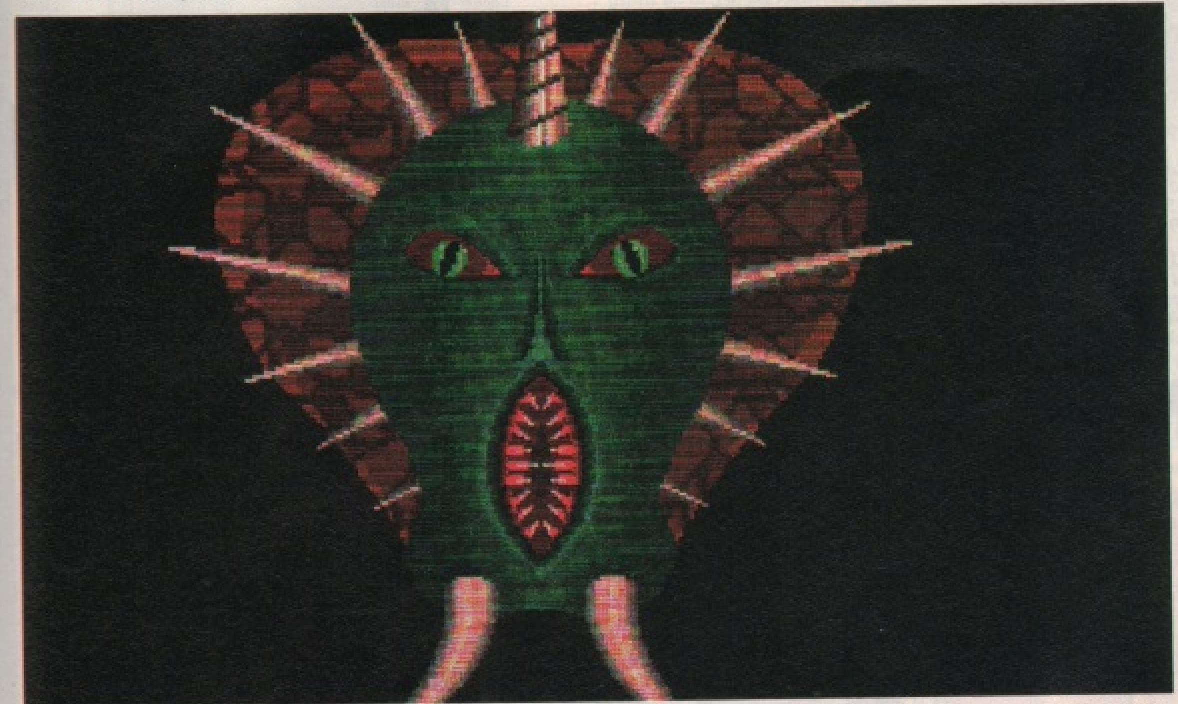
NO SLOUCH

In terms of speed, the printer should be compared to dot matrix devices, and as such it performs extremely well when printing text. In draft mode, it zooms along at 300 characters per second (CPS), and even in high-quality mode, it still manages a spritely 170 CPS – nearly double the speed of the BJ10e. When it comes to printing graphics, the printer's skeleton in the closet is revealed. Although it uses a four-head printing system, the printer can only print one colour on each pass of the heads (probably to stop the quick-drying ink from bleeding into each other and creating a dismal mess). This, of course, means that each screen colour requires four passes of the print head – one for each ink colour of black, yellow, cyan and magenta. In practice, I found that ordinary low resolution Amiga screens took about 12 minutes each to print, although this slowness is partly attributable to the driver used.

The colour mixing is the best I've seen on a colour printer, although all of the finished results still end up being darker than the original image. Areas of solid colour look extremely smooth, and Canon seem to have improved their design to produce denser, more solid looking output. The BJC-800 comes with three typefaces: Courier, Sans Serif and Roman. These are available in 10,



Above And Right: Over to the right is an IFF image drawn using good old *DPaint*, whilst the reproduced version above is what to expect from the Canon. As you can see, the colours are bold and crystal clear with very little unwanted mixing.



The four-head printing system is surprisingly fast – a rather nippy 300 characters per second in draft mode – but as can be expected this is slowed slightly when creating pictures by the need to run one pass at a time to prevent the inks blurring into each other.



Each screen takes roughly twelve minutes to reproduce, but this alters slightly depending on which printer driver you are using. In addition, Canon seem to have improved the machine's ability to produce denser colours.

12, 15 and 20 characters per inch, and proportional spacing is also available in all modes.

CONCLUSION

Although the output of the unit is extremely good when compared to that of a dot matrix printer, I would still recommend that it should be used with colour-enhancement software to liven the colours up. It copes well with primary, secondary, and tertiary colours, but as soon as it starts mixing the inks in any proportion other than 100% or 0%, a slight banding begins to appear. To achieve optimum results, the printer should be used with colour enhancing paper, which has a thin coating of chalk on it to dry the ink quickly and prevent bleeding problems. This, added to the cost of the colour cartridges makes it quite an expensive printer to run, and when you consider its £2000 price tag, it becomes clear that the BJC-800 is definitely not for the ordinary home user. Because of its slow graphics print speed, it isn't really much good for business users who require large volumes of colour print-outs. For this reason, I suspect it's more for the kind of users who need to print out the occasional colour proof before sending DTP files off to a bureau for professional printing.

A really magnificent printer, but disappointingly expensive.

CANON BJC-800

. . . at a glance

• Best quality non-laser colour printer available • Very expensive to buy and run • Lightning fast text output • Very user-friendly • High 360 DPI resolution

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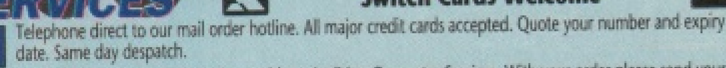
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PHILIPS CM8833 Mk II Colour Monitor. High Resolution, Twin Speaker Stereo complete with all Leads and One Year on-site Warranty with FREE F19 Stealth Fighter Simulator £209.99
Commodore 1084S Monitor High Resolution Colour Monitor, Twin Speaker Stereo inc Leads £229.99
COMMODORE 1085 SD2 Stereo Colour Monitor £229.99
COMMODORE 1960 Multi Sync Monitor Complete with leads to plug straight into the Amiga 500 Plus £436.99
MICROWAY FLICKER FIXER Inside Amiga 1500/2000 for flicker free Graphics when used with Commodore 1960 monitor £99.99
GOLDSTAR Colour 40 Channel Monitor/TV with Full remote control and includes Amiga Scart Leads £179.99
Genuine Philips Tilt & Swivel Monitor Stands £16.99

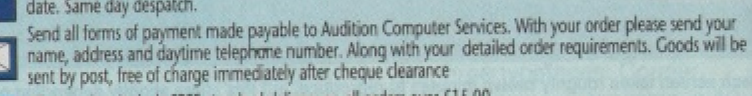
Please note that all our Monitors are official UK Specifications.
We do not sell Grey Imports of any kind
All our monitors include FREE next working day delivery



Dept CUA, 35 Broad St, Stamford,
Lincs, PE9 1PJ.
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All our prices include FREE standard delivery on all orders over £15.00.
Next Working Day Delivery only £2.50 extra on all orders over £100.00.

All our prices include V.A.T.

COMMODORE ATARI CITIZEN STAR AMSTRAD CUMANA PHILIPS GOLDEN IMAGE NAKSHA ABACUS SEGA DIGITA

PageCreator 1.1

Is DTP on the cheap really possible? 17Bit think so. But does Nick Veitch agree?

SOMETHING DIFFERENT

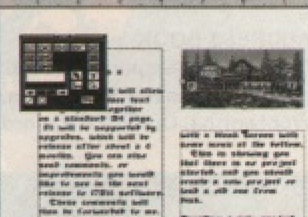
DTP has rapidly become a popular pastime on the Amiga – but a potentially expensive one, too. The top packages are all over £100 and certainly offer excellent results – but do people really need all the features they offer? Not according to 17Bit, who have just released this budget-priced DTP effort to the waiting world.

The system is almost entirely icon-driven. It's just a shame that the icons are so small and difficult to read. There aren't that many of them, though, so it doesn't take too long to work out what's what. Pages can be created at most of the standard A-type sizes. Once you have created a page, you will need to create a box for any element you want to include on the page, be it text or graphics. Text is not entered directly into the boxes, though, but via a separate editor. When you click into a box to add text the page gets flipped back to the Workbench, where a small window editor is running.

EDITING

The editor is not very powerful, and is probably the weakest part of the program. You can enter text and scroll backwards and forwards with the cursor, but that's about it – and it is considerably inferior to the Workbench's ED. Style codes are entered by putting a '#' abbreviation before them. This is quite useful because it means you can create the text in a more worthwhile word processor and then load it into the editor when *Page Creator* is running. However, the only styles supported are bold, italic and underline. The editor seems to be a bit on the shakey side, too. Many's the time spurious characters have appeared at the bottom of the screen, not to mention the word wrap behaving very oddly.

Above: IFFs can be loaded and displayed, but not scaled, so it is important to prepare them well in advance.



Right: If you're using bitmap fonts you must remember that you will need a different sized font for the printer.

FONT SUPPORT

Page Creator does support Compugraphic fonts, of the type used by Workbench 2. The scaleable fonts can, of course, be used at any size. Unfortunately, it seems impossible to mix two different sizes in the same text box. This means that, for example, sub-heads to a particular piece of text would have to be entered into a separate box and overlaid on to the main text. The software does support box linking, so text is automatically flowed through the document, and that at least seems to work quite well. You can, of course, also use normal bitmap fonts, but remember that you will need a different bitmap size of font when you are printing (the screen is nominally 72dpi which is what the point sizes of all the Workbench bitmap fonts are based on).

One impressive area of the program is the bitmap graphic support. When you load a picture into a box, the original IFF undergoes a line-scanning process and the information is then rescaled for the screen. The display on the document is only a greyscale, but it's easily as good as anything in *ProPage*/*Pagestream*. Of course, once it has been placed on the page, that is it. You can resposition it, but you can't rescale it, and cropping is quite difficult. Still, it outputs fairly well. Two styles of freehand drawing are also available – a line and a circle. They can't be patterned or filled but the line at least could be useful for keylines and separators.

A nice touch is the online help system. It's by no means exhaustive, but it is very usefull when you forget exactly how something works and can't really be bothered to hunt through the documentation.

ALTERNATIVELY... Obviously, *Page Creator* cannot compete with the big boys like *Saxon*, *ProPage* and Soft-Logik's *Pagestream*, but then again it is about a fiftieth of the price. The only real competition is *Pagesetter II* by Gold Disk. In addition, as a mono-only DTP system it shares many of the features of its sister program, *ProPage*, except for the colour and ARexx support. It's an excellent entry-level program, but costs around five times as this budget offering.

CONCLUSION

Although reasonably easy to use, *Page Creator* is still too flawed to use without a lot of care and patience. It's fine for a one-off report, though. If you intend to take DTP seriously then you would be better going for Gold Disk's entry-level package, but at the price of a budget game *Page Creator* may be worth a look.

PAGE CREATOR
. . . at a glance

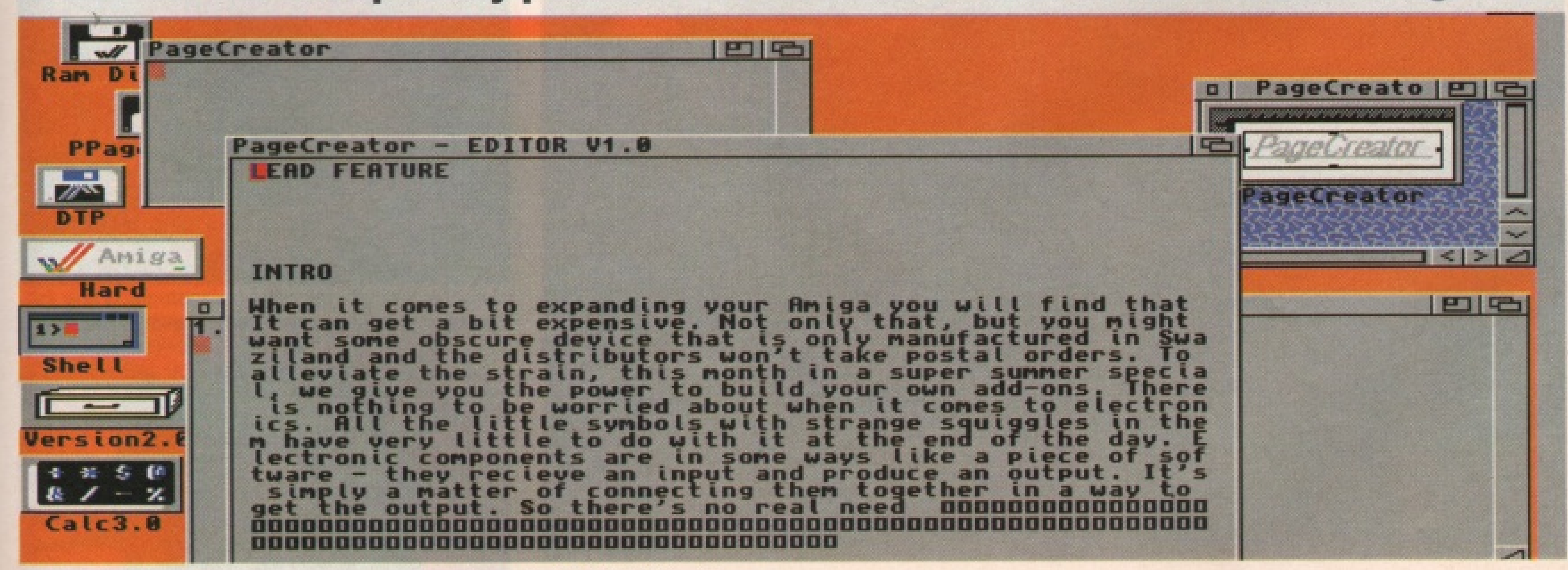
• Compugraphic font support • Import bitmaps • Bitmap screen preview • Integral text editor • Preferences printer support • Freehand drawing modes • Automatic text-flow •

ADDRESS BOOK: 17Bit can be found at 1st Floor Offices, 2/8 Market Street, Wakefield. WF1 1DH. Alternatively, give them a bell on 0924 366982

17 BIT £7.95

Low-price, but, unfortunately, low-quality, too...

EASE OF USE	64%
VALUE FOR MONEY	88%
EFFECTIVENESS	36%
FLEXIBILITY	48%
INNOVATION	50%
OVERALL	**57%**



The text editor is failry primitive and somewhat worrying to use. You can load ASCII text in directly, however.

video round-up

As computer animation becomes more popular, the Amiga is also staking a claim. Mat Broomfield switches on to what's happening...

DANCE IN CYBERSPACE

The most spectacular example is a new 40 minute video created primarily for fans of rave music. The video is called *VR – Dance In Cyberspace*, and should be available in all good video shops by the time you read this. It has been created to accompany the music of Dr Devious (whoever he/they may be?!). Incidentally, the music is quite good too, and is a cross between The KLF and the Electric Dreams movie theme.

The video uses a combination of techniques, ranging from simple genlocking to real-time 24-bit special effects and image mixing. It starts in quite a tame fashion, with some traditional psychedelic/fractal colour cycling, but before long it launches into an impressive display of full-screen animation, which is often several layers deep.

Dance was created using a bank of A3000s for most of the foreground work (sprites, fractals, 3D objects etc), and PCs for the backgrounds. In addition, professional video mixers were used to combine the images from multiple sources so that they all share similar colour intensities, and consequently blended in with each other without being abrasive to the eye.

SPOT THE DEMO

Eagle-eyed demo lovers will doubtless recognise the appearance of many bobs, sprites and animations from their favourite demos. Indeed, Prism Leisure tell me that some of the Amiga world's foremost demo writers were consulted during the making of this video. The remarkable thing about it is the way that, although some of the images are familiar, they've been integrated with such skill, that the end result looks every bit as professional as anything to be seen on The Chart Show.

Therein lies the whole point of this situation: the Amiga has always been good enough to create commercial-quality animation, it just seems to have lacked the professionals and incentive to use it. Perhaps when those with the power see what's been created here, in a small private studio with a couple of dedicated professionals, they'll finally start taking the Amiga seriously. If so, then who knows what the future may hold...

ADDRESS BOOK
Dance In Cyberspace. Price: £10.99 from major branches of WH Smiths, Woolworths, Our Price Records, etc.



RUN VT It's only in the last couple of years that computer animation has gained widespread acceptance alongside traditional techniques such as cartoon animation, live film and even puppetry and claymation. Thanks to the work of dedicated studios such as Pixar and Lucasfilm's Industrial Light And Magic, computer animation has exploded onto our TV and movie screens as an exciting and refreshing way to supplement conventional images.

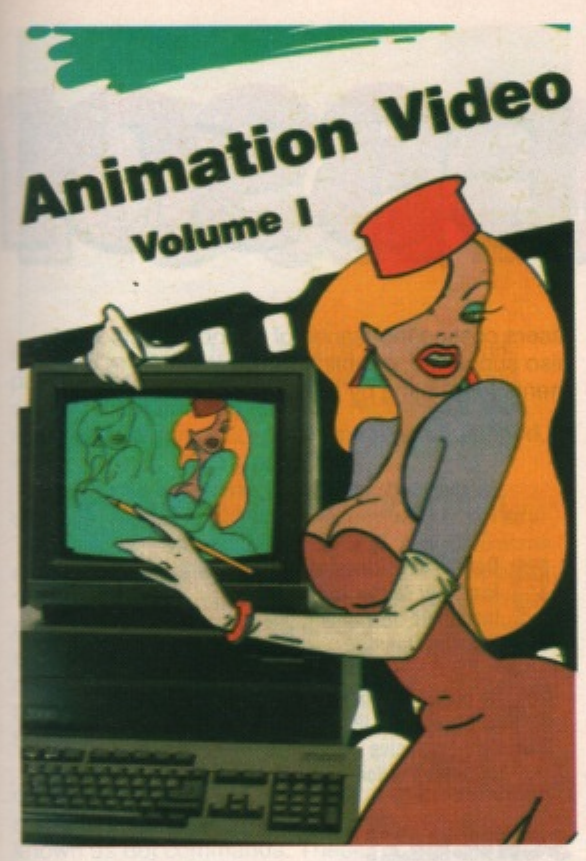
Disney Studios have long been using Amigas to help with story-boarding and background generation, but it's taken until now for Amiga-generated animation to become available for the mass market.











THE MIND'S EYE

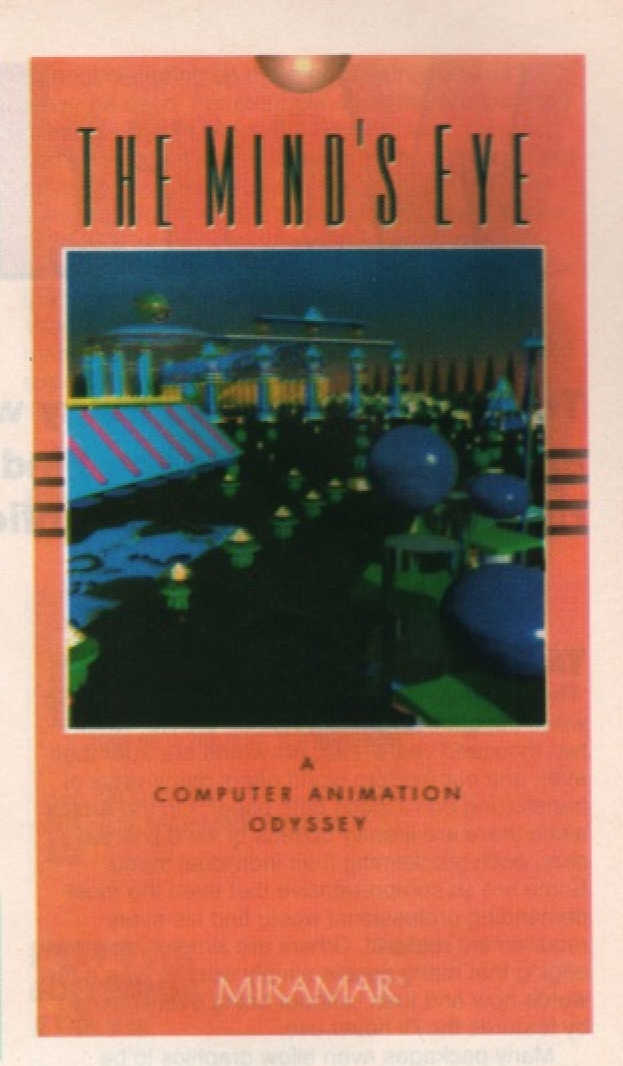
Finally, just to whet your appetite, Miramar Studios in America have released an awesome video called *The Mind's Eye*, which features the work of the world's best animation labs. Although none of the animation has been created on the Amiga, this video is an enthralling tour de force of computer animation.

Accompanied by a specially-written soundtrack by James Reynolds, the video comprises dozens of separate animated films, edited together to create a 40-minute film which loosely follows the theme of evolution and the steady development of a civilisation.

I really can't praise this video highly enough: the sound track is excellent and the animation goes way beyond breath-taking. If a picture speaks a thousand words, the contents of these three videos could fill an entire library!

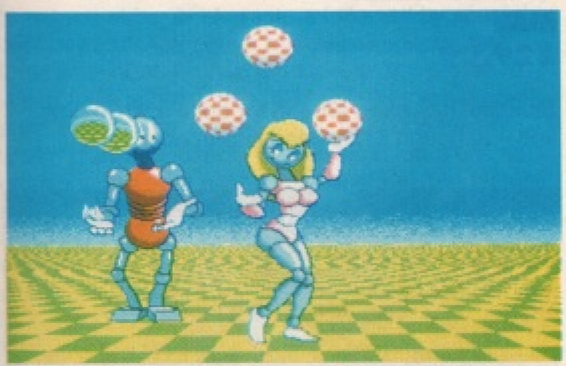
ADDRESS BOOK
The Mind's Eye. Price: $19.95. Details from: Miramar Studios, 200 Second Avenue West, Seattle, Washington, 98119-4204. Tel: 0101 206 284 4700.





AVAILABILITY

Although no distribution deals have yet been finalised, all three videos should be available in UK video shops within the next few months.



ANIMATION VIDEO VOLUME 1

Animation addicts may be interested to know about another Amiga extravaganza brought to you courtesy of Amiga World, one of America's foremost Amiga magazines. This 48-minute video contains clips taken from the animation festival in Edinburgh, as well as work from the foremost Amiga animators worldwide. Needless to say, Eric Schwartz and Tobias Richter's work makes an appearance, but there's also stuff from formerly-unknown animators.

The video begins with a series of fairly short clips, and these aren't particularly impressive. However, as it progresses, and the clips become longer, the quality also increases drastically. I was particularly impressed by an animation called The Achilles Probe Sequence, which combines digitised images with hand-drawn art to simulate the discovery of a new planet upon which is a bleached monster's skull. Using simulated telemetry and computer reconstruction, flesh is added to the skull to reveal what the deceased beast would have looked like.

The video is a real must for Amiga animation fans as it contains footage which cannot be seen anywhere else.

ADDRESS BOOK
Animation Video 1. Price: $19.95. Details from: Amiga World, P.O.Box 8751, Boulder, CO 80329-8751, U.S.A.



DANCE IN CYBERSPACE COMPO

10 COPIES TO BE WON

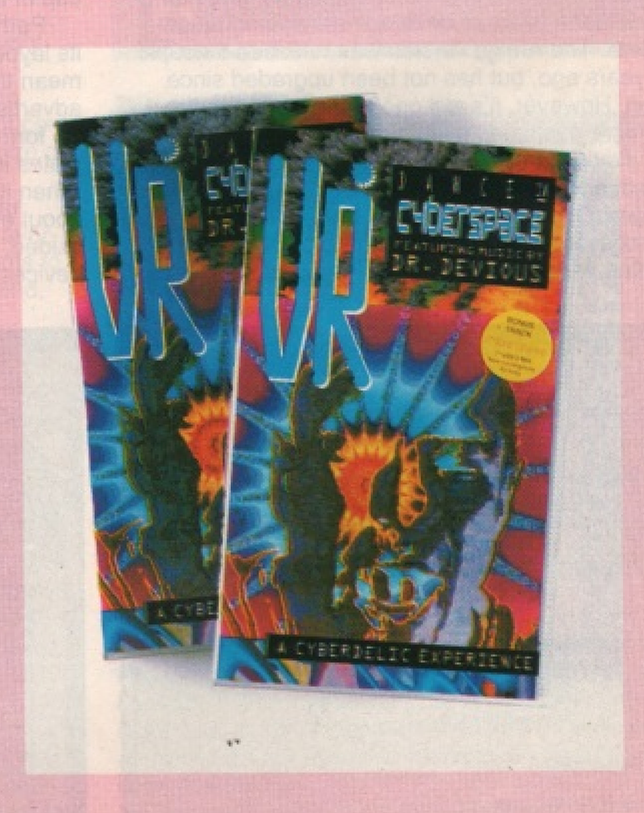
To celebrate the recent release of their *Dance In Cyberspace* video, featuring the music of Doctor Devious and images culled directly from the Amiga, we've got 10 copies to give away absolutely free. Featuring a multimedia mix of music, graphics and animation, the video is real state-of-the-art stuff and should occupy a place in everybody's video collection. With an eclectic fusion of Amiga-induced imagery and a full-blown Rave backing track, you'll doubtless see Cyberspace playing at a club near you soon. In the words of Marshall McLuhan, 'Tune in, turn on, drop out...'

To win a copy, simply tell us the alternative stage name of Doctor Devious.

RULES

1. The competition is not open to employees of EMAP or Prism Leisure Video.
2. The Editor's decision is final (no matter how daft it may seem).
3. No correspondence will be entered into.
4. The closing date for enteries is 30th September, 1992.

Answers on a postcard to: CYBERSPACE COMPO, CU AMIGA, Priory Court, 30-32 Farringdon Lane, Farringdon, London, EC1R 3AU. Entries to arrive no later than 30th September.



Word Processor

There are almost as many word processors as there are people using them. Find out which package is right for you in Mat Broomfield's exhaustive survey.

TAKE YOUR PICK

'The incurable itch of writing possesses many.' So wrote Juvenal, an ancient Roman lawyer. Nearly two thousand years later, his words are truer than ever, and our modern world offers many ways of transferring one's ideas onto paper. On the Amiga alone there are literally dozens of word processors, each proclaiming their individual merits. Some are so comprehensive that even the most demanding professional would find his every requirement realised. Others are simpler, acknowledging that many people simply want to type a few words now and then, without being overwhelmed by features they'll never use.

Many packages even allow graphics to be incorporated into documents, providing a kind of entry level desk-top publishing environment. Of course, it's wonderful to have lots of choice, but unless you test each package personally, the range can be a bit bewildering. Not to worry, I'm here to provide you with a look at some of the best word processors, with price tags and options to fit all pockets!

WORD PERFECT 4.1

WORD PERFECT CORPORATION

£203.83

Word Perfect is probably the most famous and popular PC word processor of all time, and has undergone years of development and enhancements. The Amiga version was released a couple of years ago, but has not been upgraded since then. However, it's still one of the most comprehensive packages ever to grace our machine.

It's designed very much with the power user in mind, and has a features list which runs to several pages. Designed before the days when every word processor had pretensions towards desk-top publishing, it doesn't include any graphics options, adopting the philosophy that, if you wanted a DTP package, you surely would have bought one in the first place!

Word Perfect is supplied with a manual that I can only describe as enormous! 600 pages describing every option in the minutest detail, plus a secondary 150-page manual on printing. The program can be used on any Amiga, including a standard A500 with 512k of RAM, but two disk drives or a hard drive are recommended.

The screen display is deceptively sparse, and even the menus suggest little of the incredible power behind the program. The main reason for this apparent simplicity is that many of the really interesting options are hidden beneath menus, some of which contain sub-menus, and even entire sets of extra option screens. Surprisingly, though, despite the program's complexity, the basic features are quite easy to use and understand, and even the more complicated ones are quite accessible, thanks to the mouse-controlled selection process.

Speaking of mouse control, I must emphasise at this point, that the program seems to be designed to be used almost exclusively from the keyboard. That's not to say that the options can't be accessed via the mouse, it's simply that there are keyboard shortcuts for EVERYTHING, from printing, to reformatting, to spell-checking. All it needs is a keyboard shortcut which will make a cup of tea, and the program would be complete!

Perhaps the program's greatest strength lies in its layout and printing options. Multi-column modes mean that it can be used to design newsletters, advertising sheets, or ordinary documents, whilst it's form mode enables the user to design templates into which data can be added repeatedly. When it comes to printing the finished results, just about every conceivable printer has been in cluded, ranging from small nine-pin dot matrix devices such as the Star LC10, to huge office lasers costing thousands of pounds. Postscript is also supported, enabling the user to create documents for printing by professional typesetters.

PROS AND CONS

PROS
- Dozens of editing and layout features
- Excellent printer support
- Incredible flexibility
- Industry standard

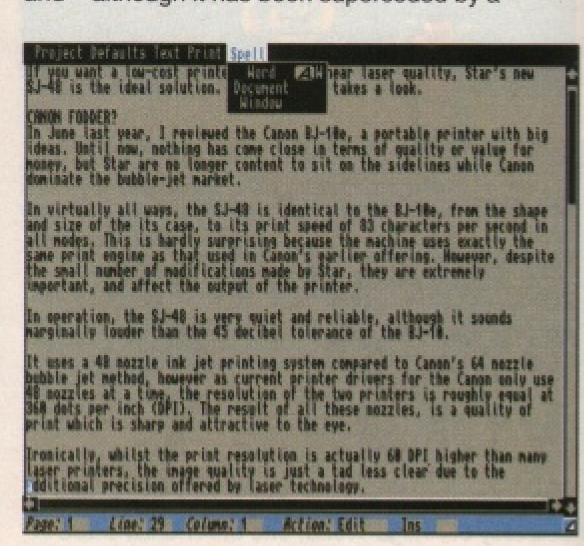
CONS
- No graphics support
- An awful lot to learn
- Very expensive
- Quite drab to look at

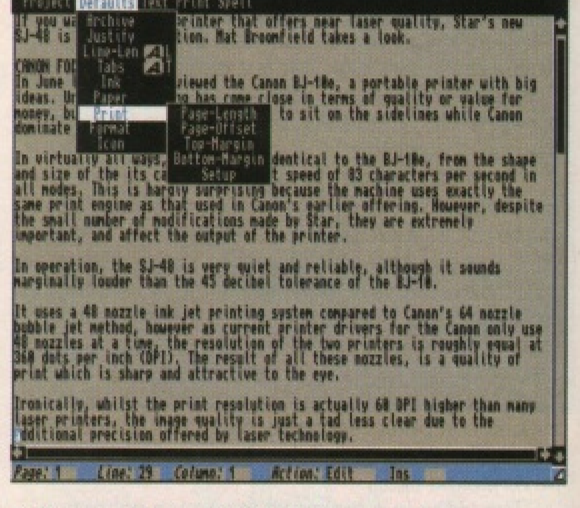
SCRIBBLE!

MSS

£29.99

Scribble! has been around for quite a while now, and – although it has been superceded by a





Platinum edition which includes more features – for sheer ease of use and value for money, *Scribble!* is tops.

It loads from Workbench, and requires no special installation, although parameters such as line length, margins and other basics can be saved in a custom file if required. In terms of features, it's

round-up

incredibly basic: it has the usual cut, copy and paste facilities, as well as a few keyboard short cuts for word and line deletion. Naturally, it also includes text styling functions such as underlined, italicised, etc.

Its somewhat quirky, but adequate spell-checker uses a 40,000 word American dictionary. This unfortunately results in a lot of Americanisms ending up flagged as incorrectly spelled, especially 'ise' words (hypnotise and memorise, for example) as the Americans spell them with a 'Z'. By today's standards, 40,000 words doesn't sound a great deal, but I doubt if you'll find it limiting – after all, the average person's vocabulary only stretches to between five and 10,000 words.

In fact, *Scribble!* has far more functions than can be accessed via either menus or keyboard shortcuts, as it uses a very annoying system known as dot commands. These require the user to enter a string of characters followed by special control or escape codes to activate special features of either the program itself, or the printer to which a file is being sent. At best, they are a complete pain to use, and at worst, they don't even work. They supposedly control such functions as changing the print pitch, activating sub and superscript, initializing proportional print, etc. However, as mentioned, *Scribble!* appeals mainly to novice users, and as such, these dot commands are unlikely to be required. There's little else to say about *Scribble!*: it's easy to learn and use, strictly functional with no frills. Great for the beginner.

PROS AND CONS

PROS
- Straightforward package
- Quick to get started
- Cheap



- No 'advanced' features at all
- Not particularly flexible
- Not expandable
- Irritating dot commands to set certain modes

WORDWORTH 1.1
DIGITA
£129.95

With DTP packages costing several hundred pounds, Digita have tried to bridge the gap by producing a word processor with a modicum of graphics handling abilities.

The program is a nuisance to set up, requiring reference to a unique code which is provided with each copy. Once that's out of the way, the program's unusual nature soon becomes apparent. It seems that Digita wanted to produce more than just another program, but wanted to create a new way of doing things. From the slick packaging, right down to the program's Workbench 2.0 look, Digita seem to be trying to project the ethic of 'Quality without compromise.' If only that ethic had been extended to include 'User-friendliness in addition to features...'

As a professional user, I've encountered and used many word processing programs, and I can truthfully say that none has caused me more frustration or aggravation than this one. The program itself is very exciting, and undoubtedly provides the best support for graphics, fonts and colours short of a dedicated DTP package. However, co-ordinating these functions, not only with the printer, but with the screen display can be quite frustrating. Something as normally straightforward as changing the screen font and printing the results can be a real pain.

But let's not dwell on the negative points, for with time and experience, the program becomes friendlier, and its numerous finer points can be appreciated. In the first place, it lets you utilise any different fonts that your printer may include. In doing so, it attempts to retain WYSIWYG integrity by using special screen fonts to represent those to be printed. Better yet, 2.0 owners can even enjoy scalable fonts, which lets them use text at any size they like.

Adding to the power offered by such flexible font handling is the inclusion of colour output, which means the user can create documents which not only include pictures, but which use colour as a way to emphasise and enliven text passages as well. The entire program uses a series of on-screen icons, rulers and gadgets to provide very flexible control over the current environment. These are supplemented by menu options too numerous to mention, and give a high level of control over everything from the save format to size of the margins.

As much as I liked *Word Perfect*, I feel that many of its options represent overkill for the average user. *Wordworth* on the other hand, seems to have exactly the options one would hope to find, without cluttering up the menus with stuff that'll never be used. For example, the program includes multiple ways in which the current page number can be inserted into a document. OK, so you're not going to use this feature all the time, but it's quite likely that you'll need it at some point, and it's nice to have a variety of numbering formats and locations to choose from. I really can't over-emphasise the feeling of quality that one gets when using *Wordworth*. The screen is easy on the eye; the menus and requesters appear exactly where you'd expect them to; and the many gadgets work smoothly. If only it wasn't so finicky to get started.

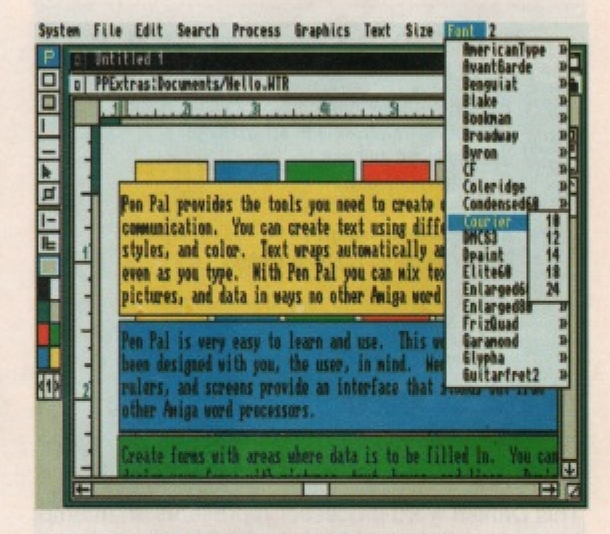
If you require a top quality word processor either for work, school, or pleasure, *Wordworth* is well worth a look, especially if you need to include graphics. It's almost inspirational to use!

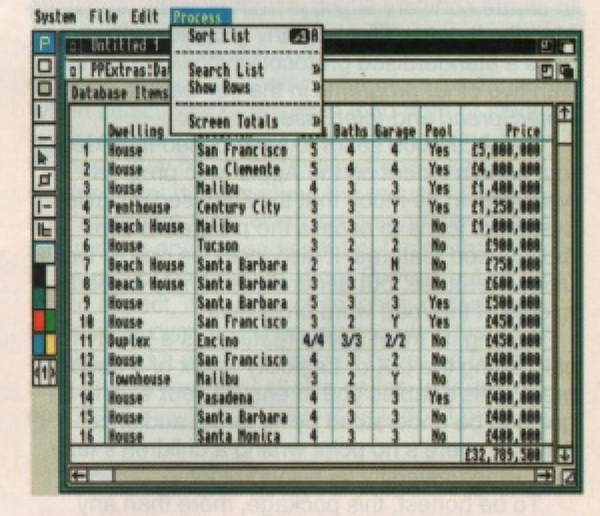
PROS AND CONS

PROS
- Good after sales support
- Excellent printing and graphics support
- Good range of options
- Use up to 255 fonts in a document

CONS
- Quite pricey
- A bit of a monster to master

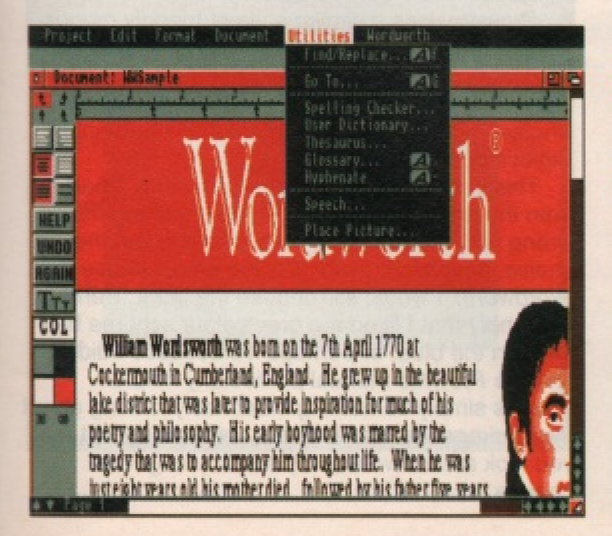
PEN PAL
SOFTWOOD
£79.95





Pen Pal was one of the first packages to try and incorporate graphics features in a word processor. However, it's far more ambitious than its peers, because it also incorporates an art package and a database. Its name accurately evokes its abilities as, whilst it's not totally amateurish, it's not particularly slick either.

The word processor is fairly basic with extra ➤





Word Processor round-up

features being restricted to options such as 'Insert date' and headers/footers. That said, the addition of a database is a really smart move on Softwood's behalf, and it makes the package absolutely perfect for generating mail shots. The database is extremely easy to use, yet is one of the more powerful ones available. By specifying particular fields, the word processor can then import any amount of data, creating entire letters with no additional involvement from the user. Better still, *Pen Pal* has an automatic form mode, whereby template forms are automatically filled in with data from the database.

These facilities are so powerful that they almost seem to contradict the program's apparent target user. At first glance, one would assume that *Pen Pal* is designed for small scale correspondance, or for club secretaries and that sort of thing. Once you appreciate the advantages of a database and word processor in one, you have to muse over the larger scale possibilities.

Any IFF graphic can be loaded into the program, and text can be made to flow around the contours of these images. This is quite useful when printing bitmaps but, when it comes to using printer fonts, text justification and spacing can become very ragged, making a mess of your neatly arranged document.

Again, the program is very easy to use, and in a sense I tend to think of it as a graphic version of *Scribble!*: not so hot on features, but great for beginners, and easy to learn.

PROS AND CONS

PROS
- Nice graphic handling
- Integrated database and art package
- Easy to learn and use
- Great for mail shots

CONS
- A bit sparse on features
- Printer handling is rather clumsy

INTERWORD
INTERACTIVISION
£49.95

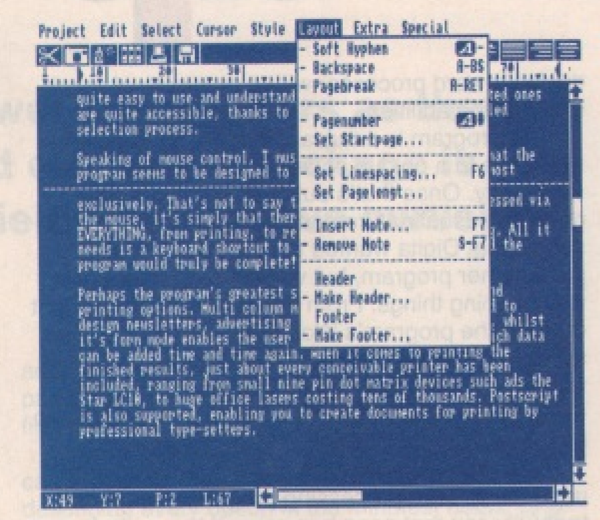
This Danish word processor represents an attempt to create software which is both versatile and user-friendly. It doesn't feature any graphic abilities, but uses a standardised protocol which is compatible with two other programs in the company's range (*InterSpread* and *InterBase*).

InterActivision seem to have based their design to a certain extent on the Apple Mac program *Macwrite*, in so much that they've used a similar system of icons to access the program's commonly-used features. It also includes one or two unique features, but generally is simply a good middle of the road word processor.

Among its most useful features is a facility for calculating the LIX or Legibility Index of a document. This enables you to ensure your writing is going to be understood by its target audience. After all, there's no point writing a children's fairy tale using university level language!

To be honest, this package, more than any other, seems to have been designed almost exclusively for writing books, essays, dissertations and other lengthier pieces of work. Visually, it lacks the frills of, say, *Wordworth* and in terms of features it doesn't contain as many as *Word Perfect* or *Protext*. What features it does have seem to be concerned not so much with the short-term presentation of one and two-page documents, but tend to point towards large scale layout. Its auto index feature seems to be one of the clearest indicators, but even its word frequency table, which gives the total occurences of all words in a document, only seems meaningful on a larger scale.

On a sour note, the professionalism of the product is slightly spoilt by lazy spelling, both in its on-screen text, and in its manuals (which also fall short in the grammar department). Nevertheless, *InterWord* is a pleasant program to use, and reasonably priced. Sure, you can type the odd letter to your Granny or Bank Manager with it, but you might appreciate it more if you use it to write a book or instruction manual.



PROS AND CONS



PROS
- Fair price
- Good layout options
- Unequalled analysis features

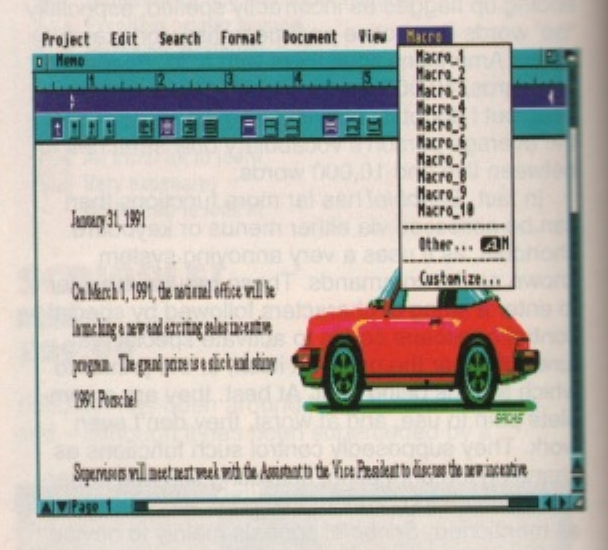
CONS
- English is bad in both manual and on-screen
- No thesaurus
- American dictionary

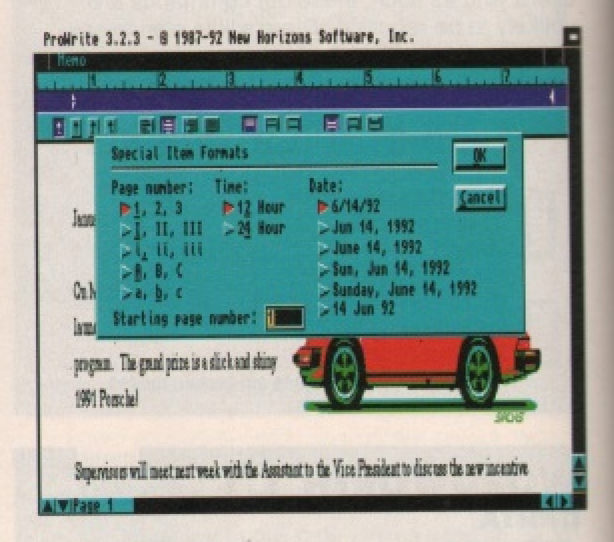
PROWRITE 3.2
NEW HORIZONS
£79.95

Prowrite is initially very similar to *Wordworth* in both layout and features, but a closer look reveals it to be an inferior copy in all regards. It allows the user to incorporate graphics in up to 4096 colours, and also allows the use of coloured text. Unfortunately, its graphics handling is not only slow to the point of catatonia, but it's totally marred by a lack of text flow facilities. This means that if you import a graphic and place it in the middle of a document, you must position the text around it by using margins, tabs and spaces. This, of course, means that if you reformat a document or add or delete text, everything must be manually rearranged around the graphics again. Also, any operation involving a graphic, requires a total redraw of that image, sometimes taking thirty seconds or more.

If we overlook its shortfalls in the graphics department, *Prowrite* makes a good attempt to redeem itself, and proves extremely flexible and easy to use in all other areas. Like its UK cousin, the program lets you use a wide variety of different fonts in a single document, and these may use one of a range of colours for additional effect.

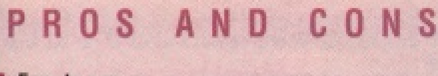
The menus reveal an interesting diversity of options, including powerful macros, through which entire sequences of characters or formatting/layout operations may be applied to a document. I don't want to waffle on unnecessarily about the similarity between the two programs, but one would definitely be forgiven for assuming that *Prowrite* was an earlier version of *Wordworth*.





Prowrite uses a similar style of friendly menus, but like the pod people in 'Invasion Of The Body Snatchers', there's something not quite right about them. The options are there, but they lack the wholesome, reassuring element that's present in Digita's offering.

This is quite a toughie to review fairly. Apart from the graphics handling, there's nothing major wrong with the package. It's just that given the choice, despite *Prowrite* proving easier to use than *Wordworth*, I would still choose the latter. Perhaps it's simply that I liked the grey colour scheme better than the blue, or perhaps it's because I didn't find the *Prowrite* manual particularly helpful. There's simply something indefinably lacking about the package. In this instance, I would suggest that you look at the two side by side if you get the chance.



PROS AND CONS



PROS
- Easy to use
- Many features
- Friendly menus

CONS
- Poor graphics handling

QUICKWRITE 1.1

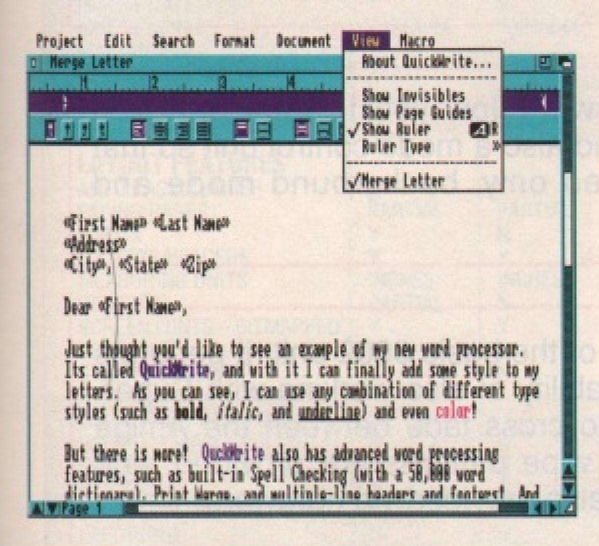
NEW HORIZONS

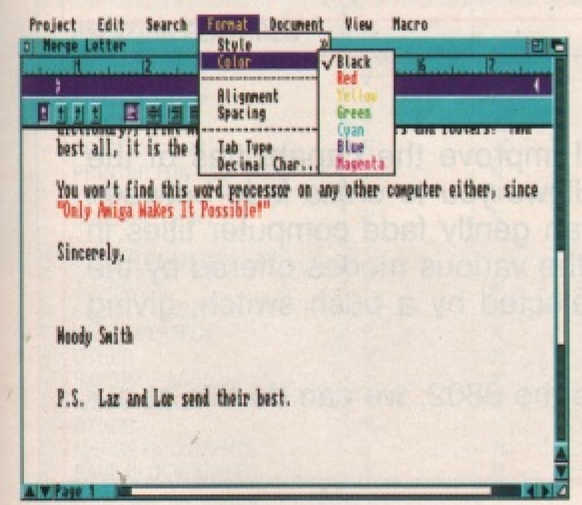
£50.99

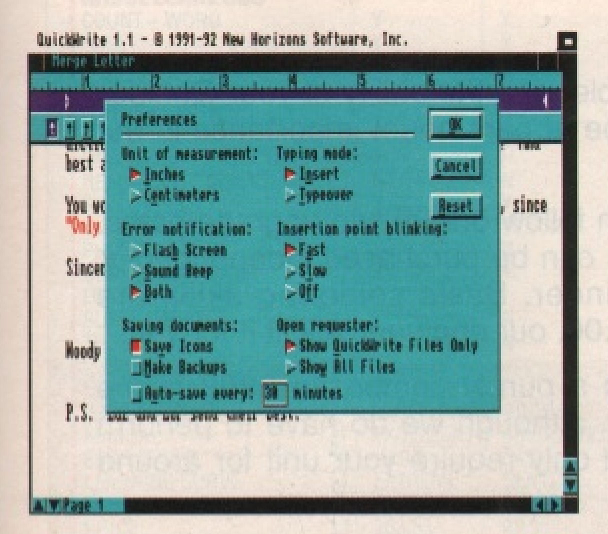
It's ironic that *Quickwrite* is *Prowrite*'s stablemate, and shares an identical layout and colour scheme. However, unlike *Prowrite*, *Quick* gives a completely opposite impression to its older sibling.

Quickwrite has been designed as a straightforward word processor with no fancy graphics handling features. At £50.99, it's quite reasonably priced, and exudes an aura of reassuring stability, in much the same way as *Wordworth*.

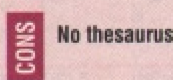
This time everything feels right about it. It's standing against packages such as *Scribble!* and *Interword*, and it compares very favourably against either. Text editing is particularly friendly thanks to a *Macwrite*-style multiple click interface, which can be used to highlight words, sentences and even paragraphs with the mouse. ARexx support is yet another hidden gem, and means that power users can generate automated scripts which are more powerful than the standard macros of other such programs. Word processors have evolved steadily since their appearance on the Amiga, and I feel that *Quickwrite* represents the first of a new era of 'novice' word processors. It's ideal for beginners since it's so very easy to use, yet options such as headers/footers, sub- and superscript, auto page numbering and time/date insertion provide room for the growth of the user, rather like buying a child's shoes a size or so bigger than they need!







PROS AND CONS



PROS
- Very easy to use
- Adequate for most simple applications
- Quick to learn

CONS
- No thesaurus

PROTEXT 5.5

ARNOR

£152.75

This is the only real competition for *Word Perfect* in the pure word processing stakes. In every sense of the meaning, *Protext* can be considered a real expert's tool. This is not for the one-finger typist, but professional users will be aghast at the sheer scope and diversity of its features.

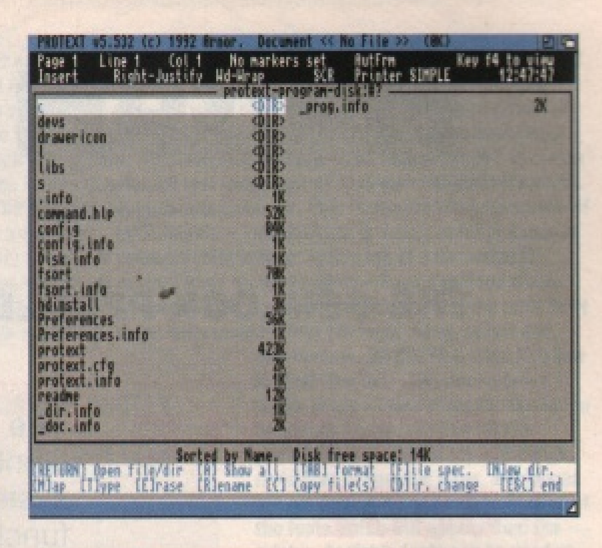
Of course, it doesn't support graphics, coming from the same school of reasoning as *Word Perfect*. *Protext*'s manual is only 352 pages in length but, unlike the *Word Perfect* manual, it actually credits the user with some intelligence, and consequently doesn't spell out how to do everything in microscopic detail. This seems like a good thing because I can't really imagine many beginners buying a program of such complexity.

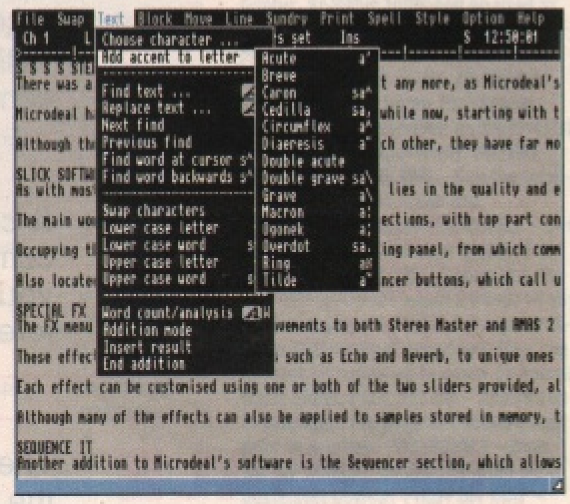
Ultimately, I think that *Protext* manages to squeeze in even more features than its nemesis, and the index of the manual certainly seems far, far more crowded, if that's anything to go by. Mind you, the program does require at least one megabyte to run, and I would suggest that hard drive owners will be at a definite advantage.

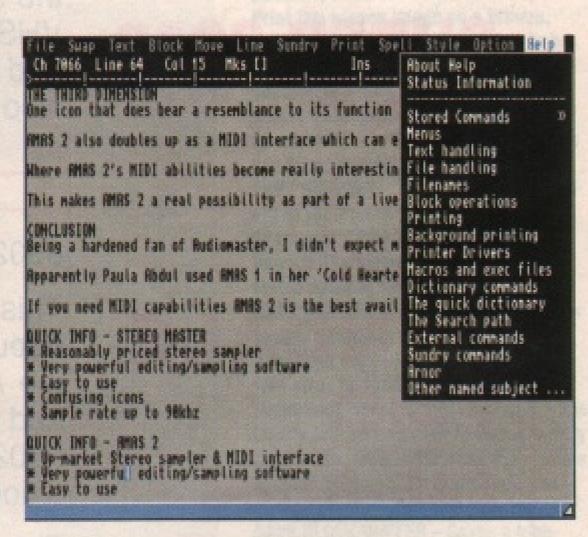
Even ignoring its massive number of layout options, which include line drawing, multiple columns, proportional fonts, etc, one can only be overwhelmed by the staggering range of languages supported. These include (deep breath), Albanian, Basque, Czech, Danish, Dutch, Esperanto, Estonian, Flemish, Finnish, French, German, Hungarian, Irish and English. And that's just the ones up to the letter I!

Because the program has undergone constant enhancement, it feels quite contemporary in its layout, but as a result of the huge variety of options, the screen display is somewhat cluttered, with not even the barest nod toward Workbench 2.0 styling.

The one factor about this program that I found intolerably aggravating is its file handling. Don't get me wrong, the program can handle an almost incredible number of text file formats, but what I'm moaning about is something far more fundamental. When selecting a directory to load from or save to, is it necessary for me to type in the volume name? Perhaps they figure that professional users wouldn't dream of touching the mouse? If so, they're wrong! Also, when loading printer drivers, it ignores the ones already set up. I think that *Protext* is a superior program to *Word Perfect*, but as you would expect, it's not quick to learn, nor without faults of its own. If you need absolutely first class results, and a program that will never be out of date, this is your best choice so far. In terms of options, if this doesn't have it, you don't need it!







PROS AND CONS



PROS
- Does it all
- Damned cheap (relatively!)
- Good backup

CONS
- Not very intuitive
- Infuriating file requester
- Steep learning curve

Word Processor round-up

WORD PROCESSOR COMPARISON TABLE

This table compares eight of the most popular word processors (WPs) available, ranging from budget packages such as *Scribble!* and *Quickwrite*, to the likes of *Wordworth*, *Word Perfect* and *Protext*. Hopefully, it will help you make an informed decision when buying a package. It compares some of the more important and common features. Here's a brief explanation of some of the features listed above, given in the order in which they appear: **AUTO INDEX CREATION** – The ability of a WP to create an index at the end of a document based upon specially indicated words in the text. **CASE CONVERSION** – The ability of a WP to change the letters of selected text from capitals to lower case and vice versa. **HYPHENS SOFT** – Invisible hyphens which only appear if the hyphenated word falls at the end of a line. **HYPHENS AUTO** – The ability of a WP to insert hyphens automatically, thus improving the appearance of a document, and reducing work for the user. **INSERT DATE** – Using the battery backed clock, the current date can be placed anywhere in a document. **MAIL MERGE** – The ability to include predefined lists of data automatically into a document. Usually used to personalise mail shots with name and address data. **AUTO PAGE NUMBER** – The ability of a WP to automatically number each page of a document if required. **FACING PAGES** – Can the package create pages which have margins and page numbers adjusted according to whether each page will be left or right-hand facing? **FORMS** – Having defined a template, can the user then simply enter data in the relavant areas without having to manually move the cursor around? **FOOTERS/HEADERS** – Supplementary pieces of text entered separately from the main body of the copy, and which appears (usually in a smaller font), at the top or bottom of a page. **MEASURING UNITS** – The units into which a page is divided. Usual units include lines per inch, picas, points and centimetres. **WYSIWYG** – What You See Is What You Get – The final printed image bears a close resemblence to the on-screen image. **SCREEN FONTS (BITMAPPED & SCALABLE)** – Although restricted to specific sizes, Bitmapped are not always a good representation of the fonts which will appear from the printer. Scalable fonts can be used at any size, and are often identical to the printed output. **SUB/SUPERSCRIPT** – When small items of text are entered slightly above or below the standard base line, it is described as superscript and subscript respectively. **IMPORT MONOCHROME/COLOUR** – Can the package load and print black and white/colour pictures? **RESIZABLE** – Can any imported graphics be enlarged or reduced? **TEXT FLOW** – Means that the text will follow the exact contour of any imported graphic, whilst left/right indicates that straight edged text flow can at least be specified to occur on one of these sides. **PAGE SET UP** – Allows you to Configure the page and preferences prior to printing. **POSTSCRIPT** – Does the WP support specific printing via a postscript device? **PRINT BIT MAP** – Print the screen image as a bitmap, enabling Amiga font information to be printed? **PRINT BUFFER** – An area of memory to which all printing is sent, whilst waiting for the printer to finish its current job. **PRINT COLOUR** – Allows you to print in full colour? **PRINTER FONT SUPPORT** – Lets you select a variety of the printer's own fonts in a document. **PROPORTIONAL PRINT** – Spaces the letters naturally, with different spacing for each letter. **SCALABLE FONTS** – If the package uses scalable font output, text quality is enhanced regardless of the printer or font size. **AUTOSAVE** – Automatically saves your work. **IMPORT/EXPORT** – The ability to load and save text in a variety of formats. **MERGE DOCUMENTS** – Can a second document be loaded and combined directly with one on-screen? **SAVE BLOCK/BUFFER** – Saves a highlighted portion of text? **COUNT WORD FREQUENCY** – Counts the number of occurences of all words in a document. **MACRO** – Lets you define complex sequences of keypresses which can be called up via a single menu selection. **MATHS FUNCTION** – Can you input a formula for evaluation in the middle of a document? **ON-LINE HELP** – Is there a help key for extra info? **PASSWORD PROTECTION** – Adds protection to a saved document. **READABILITY INDEX** – Tells you the level of comprehension required to understand a document. **PHONETIC SPELL CHECK** – A normal spell checker would realise that 'girll' and 'boyy' were supposed to read 'girl' and 'boy' because the first few letters are spelled correctly. A phonetic checker would also correctly guess 'gurl' and 'boi' as the words sound the same. **FOREIGN/SPECIALIST SUPPLEMENT** – Are there additional language or professional (legal, medical or scientific), dictionary modules available? **THESAURUS** – A thesaurus lets you look up words which have the same meaning as the selected word.

	W.PERFECT	SCRIBBLE!	W.WORTH	PEN PAL	INTERWORD	PROWRITE	QUICKWRITE	PROTEXT
EDITING FEATURES								
AUTO INDEX CREATION	Y	N	N	N	Y	N	N	Y
CASE CONVERSION	Y	N	Y	N	Y	Y	Y	Y
DELETE – WORD	Y	Y	Y	N	Y	Y	Y	Y
SENTENCE	Y	N	N	N	Y	Y	Y	Y
LINE	Y	Y	Y	N	Y	N	N	Y
PARAGRAPH	Y	N	N	N	Y	N	N	N
HYPHENS – SOFT	Y	N	N	N	Y	N	Y	Y
AUTO	Y	N	Y	N	Y	N	N	Y
INSERT DATE	Y	N	Y	Y	N	Y	Y	Y
LINE SPACING	VARIABLE	VARIABLE	1-2 LINES	1-2 LINES	VARIABLE	1-2 LINES	1-2 LINES	VARIABLE
MAIL MERGE	Y	Y	Y	Y	Y	Y	Y	Y
REPEAT LAST OPERATION	PARTIAL	N	Y	PARTIAL	N	N	N	Y
UNDO	PARTIAL	N	Y	PARTIAL	N	Y	N	Y
# OF DOCUMENTS IN MEMORY	32	NO LIMIT	100	4	50	10	10	36
LAYOUT FEATURES								
AUTO PAGE NUMBER	Y	Y	Y	Y	Y	Y	Y	Y
FACING PAGES	PARTIAL	PARTIAL	Y	N	N	Y	N	Y
FORMS	Y	N	N	Y	N	N	N	Y
FOOTERS/HEADERS	Y	Y	Y	Y	Y	Y	Y	Y
MEASURING UNITS	INCHES	INCHES	MULTIPLE	INCHES	MULTIPLE	MULTIPLE	MULTIPLE	MULTIPLE
WYSIWYG	PARTIAL	N	Y	PARTIAL	N	Y	N	PARTIAL
SCREEN FONTS – BITMAPPED	Y	Y	Y	Y	Y	Y	Y	Y
SCALABLE	N	N	Y	N	N	N	N	N
SUB/SUPERSCRIPT	Y	N	Y	Y	Y	Y	N	Y
GRAPHICS FEATURES								
IMPORT – MONOCHROME	N	N	Y	Y	N	Y	N	N
COLOUR	N	N	Y	Y	N	Y	N	N
RESIZABLE	N	N	Y	Y	N	Y	N	N
TEXT FLOW – CONTOUR	N	N	Y	Y	N	N	N	N
LEFT/RIGHT	N	N	Y	Y	N	N	N	N
PRINTING FEATURES								
PAGE SET UP	EXCELLENT	ADEQUATE	VERY GOOD	POOR	POOR	ADEQUATE	GOOD	EXCELLENT
POSTSCRIPT	Y	N	Y	N	N	Y	N	N
PRINT BIT-MAP	N	N	Y	Y	N	Y	N	N
PRINT BUFFER	Y	N	N	N	N	N	N	Y
PRINT COLOUR	N	N	Y	Y	N	Y	Y	Y
PRINTER FONT SUPPORT	Y	N	Y	Y	Y	Y	N	Y
PROPORTIONAL PRINT	Y	N	Y	N	Y	PARTIAL	N	Y
SCALABLE FONTS	N	N	Y	N	N	N	N	N
FILE HANDLING								
AUTOSAVE	Y	N	Y	N	N	N	Y	Y
EXPORT – ASCII	Y	N	Y	Y	Y	Y	Y	Y
WORD PERFECT	Y	N	Y	N	N	N	N	Y
OTHER	Y	N	Y	N	N	N	Y	Y
IMPORT – ASCII	Y	Y	Y	Y	Y	Y	Y	Y
WORD PERFECT	Y	N	Y	Y	N	N	N	Y
OTHER	Y	Y	Y	Y	N	N	Y	Y
MERGE DOCUMENTS	Y	N	N	N	Y	Y	N	Y
SAVE BLOCK/BUFFER	Y	N	Y	N	N	N	N	Y
MISCELLANEOUS								
COUNT – WORD	Y	Y	Y	Y	Y	Y	Y	Y
PAGE	Y	Y	Y	Y	Y	Y	Y	Y
WORD FREQUENCY	N	N	N	N	Y	N	N	Y
MACRO	Y	N	Y	N	N	Y	Y	Y
MATHS FUNCTIONS	Y	N	N	PARTIAL	PARTIAL	Y	Y	Y
ON-LINE HELP	Y	N	Y	Y	N	N	N	Y
PASSWORD PROTECTION	Y	N	N	N	Y	N	N	N
READABILITY INDEX	N	N	N	Y	Y	Y	Y	N
SPELL CHECK	Y	Y	Y	Y	Y	Y	Y	Y
DICTIONARY SIZE	115,000+	40,000	136,000	100,000	137,550	100,000+	50,000	110,000
PHONETIC	Y	N	Y	N	N	N	N	Y
UPDATE DICTIONARY	Y	Y	Y	Y	Y	Y	Y	Y
FOREIGN/SPECIALIST SUPPLEMENT	Y	N	Y	N	N	Y	Y	Y
THESAURUS	Y	N	Y	N	N	Y	N	Y
SUMMARY								
IMPRESSION	EXCELLENT	GOOD	VERY GOOD	OK	OK	GOOD	GOOD	EXCELLENT
MANUAL	EXCELLENT	ADEQUATE	EXCELLENT	GOOD	POOR	ADEQUATE	GOOD	VERY GOOD
EASE OF USE	HARD	EASY	HARD	EASY	EASY	MODERATE	EASY	HARD
LEARNING CURVE	EXTREME	GENTLE	MODERATE	GENTLE	GENTLE	MODERATE	GENTLE	EXTREME
TARGET USER	PRO	NOVICE	SEMI-PRO	AVERAGE	AVERAGE	SEMI-PRO	NOVICE	PRO
PRICE	203.83	29.95	129.95	79.95	49.95	79.95	50.99	152.75
OVERALL	EXCELLENT	GOOD	EXCELLENT	OK	GOOD	GOOD	EXCELLENT	EXCELLENT

PUBLIC DOMAIN PDSCENE

Steve Keen takes another exhaustive look at the latest PD releases and sorts the wheat from the chaff. If it isn't reviewed here, then it's not worth buying...

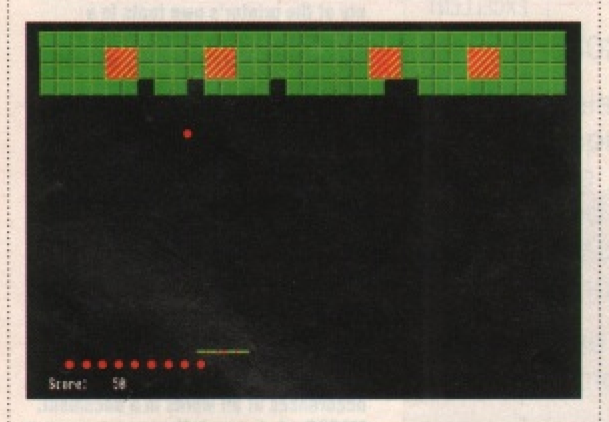
ORBIT

arcade game

***Breakout* clones are ten a penny on the PD circuit, but what makes *Orbit* so special is that it's actually quite good. The paddle's responsiveness to mouse movement is perfect and exactly the right amount of control is available over the bat to deliver the ultimate in ball accuracy. The bat slides in a silky smooth fashion across the bottom of the screen, an experience rarely witnessed in similar games. A few additional features also add to the game's appeal. If the ball gets too fast you can press 'SR' and bring it back to your bat. Pressing 'T' also makes the computer take over play so that you can take a breather. A good game, nicely executed, plain and simple.**

DISK NO: 1946 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

80%



ENSIGNIA-MAYHEM

arcade game

This is very similar to a game we previewed about five months ago called *Cavitas*. The graphics in this PD variant, though, are somewhat rudimentary but, as far as gameplay is concerned, 'the song



remains the same'. You must pilot a small craft through the cavernous underside of a rock planet. The caves are filled with perilous droids and electronic gates that are opened via the many levers found throughout the complex. The ultimate goal is to recapture two escaped convicts who have stolen a space craft and headed towards the planet. Some pixel-perfect flying is required if you're hoping to get anywhere, as the sculpted walls are usually perilously close to your ship. A password system is also available so that you can skip levels, and the game can be played using either the joystick or the mouse – although the latter isn't recommended. Rockets, jets and missiles are just a few of the hindrances, but your worst enemy is yourself as there's not much room for error.

DISK NO: 2455 (1Mb only/Plus compatible) Available from: PD Soft, 1 Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD Price: £2.50 (including P&P) Tel: 0702 466933

76%

MAYHEM ON WHEELS 1

animation

There are a whole series of motorised crashes available on the PD circuit, and this is just one of the many. Each disk contains two short digitised crashes the like of which you see on sports programmes whenever there's a public holiday. Although they are of great quality once you've seen the bungles a few times, the disks become pretty boring. If you consider the price of demos, and you find this sort of thing exciting, it would be a much better idea to save up for a video and get a full 60 minutes of celluloid mayhem. Still, it might impress your Granny.



DISK NO: 1948 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

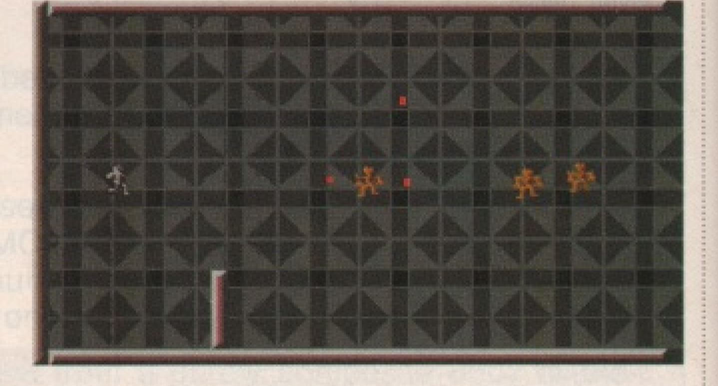




INTRUDER

arcade game

If anyone can remember a game called *Berzerk* then you'll have captured the essence of *Intruder* in your mind already. The gameplay involves the player guiding a microscopic sprite through a series of corridors, avoiding contact with the electrified walls and the incredibly fiendish creatures contained within. There are four difficulty levels (ranging from hard to incredibly hard), which are all made even more difficult by the appearance of the evil 'Otto' (who's been reduced to a spinning mine for this version). Avoid this guy at all costs, as he can't be killed and you must beat a hasty retreat to the next level. Nothing much to look at, but great gameplay and some nice sound effects make for classic arcade memories.



DISK NO: 2483 (Plus compatible) Available from: PD Soft, 1 Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD Price: £2.50 (including P&P) Tel: 0702 466933



WHAT IS PUBLIC DOMAIN?

Welcome to the Public Domain where there's a wealth of free software available for your Amiga – often as good as, if not better than, a lot of full-price commercial programs. For the price of a disk and a little money to cover such things as postage and packing, you can take your pick from a stack of great games, utilities, demos, animations and applications.

The origins of Public Domain go back to the early days of computing when groups of enthusiasts would get together and create original programs of their own. These they would distribute freely between friends to garner recognition for their coding skills. Nowadays, the PD scene has grown into a thriving industry with countless PD libraries serving an ever-growing number of enthusiasts. Standards are rising all the time. PD Scene is here to make your purchasing decisions that much easier as we individually rate all the best new releases as well as provide details of the full cost of each disk (including postage and packing) and the address of where to send your cheques/postal orders. Don't just sit there, start writing those cheques now!

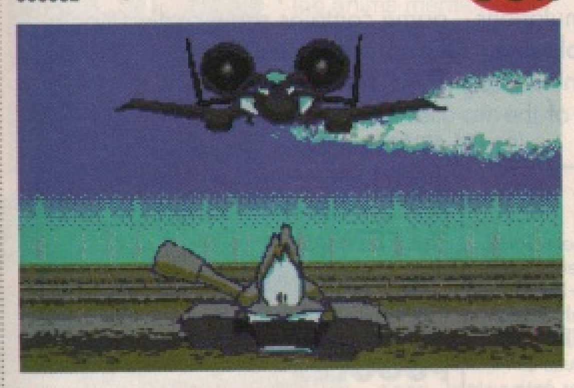
UNSPORTING

animation

Eric Schwartz has come back with another outrageously memory-intensive demo. This is yet another venture into Aerotunes territory and, whilst there's no denying his talent, it seems that the Schwartz family just can't break away from the militaristic influence. On this outing, a huge brute of a plane chases a small tank through the desert, peppering the dunes with bullets as the little tank runs for cover. As the plane scoops down, it comes in too close and snags its nose on the desert floor sending it into a spiral before it eventually lands on top of its prey. The animation is in exactly the same style as we've come to expect from Eric, with the added bonus of some great sound effects. It's still far from his best, though.

DISK NO: 1955 (2Mb machines only) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

90%



MARVEL SLIDE SHOW

slideshow

Several of Marvel Comic's motley crew of characters have made it on to this disk. Amongst the nine or so pictures, you'll find the famous and not so famous heroes who have graced the pages of their publications over the last fifty years. What makes this disk especially appealing is that the pictures have all been hand drawn in High Res mode using *DPaint III*. Some are outstanding, especially the ones of Spiderman, but it's just a pity there weren't more of them.





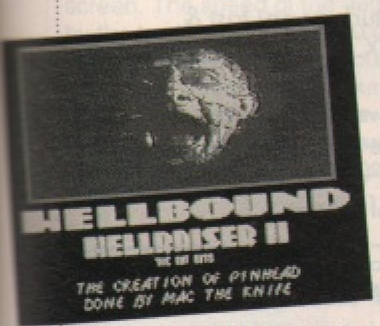
DISK NO: 1957 (1Mb only/Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

79%

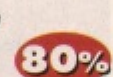
HELLBOUND-HELLRAISER 2

animation

Our monthly dose of gore comes in the form of an extremely gruesome Hellraiser 2 clip. The original film was cut rather heavily before it reached national cinemas, with some ten minutes of gore and guts eventually lost on the cutting room floor. This short flick has been grabbed and digitised from a pirated copy of the original video by Mac The Knife. It features a short scene showing how Pinhead, the lovable demon, was created. Although it's only a film it will depend how easily your sensibilities are offended as to whether you should get this disk.



DISK NO: 1950 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982



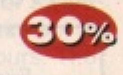
FATAL MISSION

game

Two games from accomplished programmer Robin Burrows are featured on this disk. The first is an *R-Type*-cum-*Scramble*, horizontally-scrolling shoot 'em up and the second is a Tennis game. In the first game, *Fatal Mission*, you must pilot your weedy-looking craft through asteroid belts and swarms of alien space ships avoiding missiles and blowing up everything that comes your way. Unfortunately, controls are sluggish and the gun provided is not powerful enough to eradicate the wimpiest of your enemies. The game looks great, but nothing can replace the lack of good programming. With the difficulty level set so high all the effort has been wasted. The Tennis offering is a version of that old bat and ball video game that emerged in the early 70s. There isn't a computer opponent so you'll have to play it with another human, unless you take advantage of the customisation options and make the opposition's bat fill up the other half of the screen. A disappointing affair with few thrills.



DISK NO: 2005 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982



ENTERTAINMENT PLUS! VOLUME 2

games compilation

If there's one thing in abundance on the PD circuit it's games compilations. Most have at least one good game on them, but Entertainment Plus has well above the average. The disk kicks off with one of the best versions of *Frogger* I have seen. If you can manage to pull yourself away from this, you'll discover that there are seven more games just as deserving of attention. For those of you who can't wait for Archer MacLean's *3D Pool* there's an extremely primitive, yet addictive, alternative here. *Pool* has been copied directly from an old BBC Micro version and serves as a reasonable, quality substitute whilst we wait for the 'real' thing. However, the best of the bunch is a platform shoot 'em up by the name of *Bounce And Blast*. You control a fairly deformed young lad who looks like Frank Sidebottom's lovechild and have to guide the youth through fantastically wild worlds in a quest for power-ups and glory. Great stuff.

DISK NO: 1968 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

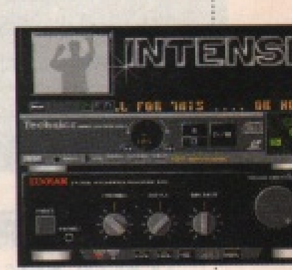
89%



INTENSE

demo

We've seen loads of mock CD players which pretend to play disks and this is better than most. *Intense* actually allows you to fiddle with and control the many options that a stereo possesses. You can choose from up to five tracks which are preprogrammed into memory and perform such miracles as pumping up the volume, fast forwarding, changing the balance, etc. The squawking tracks are all accompanied by an animated sequence which throbs away at the top left of the screen and adds that extra bit of interest. Brilliantly put together and superbly presented, your attention span will only be limited by your tolerance of this type of music.





DISK NO: 2004 (1Mb only/Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50

84%

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PD UTILITIES

VIRUS CHECKER V6.05
Virus Checker will automatically test any disk inserted into any drive, and also keep an eye on your memory to make sure no nasty virus sneeks in. Essential for HD users.

IFF CONVERTERS
Included on this disk are a selection of handy utilities that will allow you to easily transfer picture files from Amiga/PC/ST etc.

FREE COPY V1.4
Freecopy allows you to make easy backups of commercial software that contains "Manual" protection, and whilist it's copying it removes the Password Protection.

TEXT ENGINE V3.0
Very easy to use word processor with spell checker etc.

THE NIB V2.0
Just arrived...a new version of NIB. NIB 2 can remove Pass-word/Code-wheel protection from over 130 games & then dump the game to a blank disk. Handy or what? *not +.*

AMIGADEX V1.61
Amiga Dex is a great new file card system, for holding information on friends & relations.

DCOPY V2.0
Very Powerfull disk copier, includes options like DEEP SCAN NIBBLE, includes full documentation.

PC TASK V1.04
PC Task is a great new PC Emulator, allows you to run IBM PC Compatible software.

MED V3.21
Med is widely regarded as the best sequencer available on the Amiga.

BOOTX V4.50
Boot X has grown to be the most popular and most powerfull full feature Virus Killer availalbe. It's essential.

PD GAMES

CRAZY SUE
Take control of Crazy Sue, in a world full of weird & wonderfull creatures, in this highly addictive and very colourfull platform game.

U.S FOOTBALL
Die for your Country in this realistic football Managerial Role-Playing game. American Football "Radio Version" is a must for any American football addict.

TANX
If your after a 2 player simulations game, that will have you playing it for hours, then you've found it. It's called TANX, and it's one of the best PD games around.

JACKS "BLACK JACK"
Try and hussel Jack for the big black. Superior quality Amiga card game and a must for any gambling enthusasts.

SUPER TWINTRIS
Totally Amazing 2 player TETRIS clone, featuring briliant music.

E-TYPE
Remember the classic game Asteroids? Well here's a total re-write especially for the Amiga, the game contains some really smooth Graphics & excellant sound FX.

PACMAN 92
Here's s new re-write of an old ATARI arcade classic, obviously much better than the old version. A game not to be missed!

DEFENDA
A true sll time classic shoot'em up containing fast paced action. Don't miss it.

PUGGLES
Take control of Pugsy in his quest for survival in a world full of Widgy Wigs.

STRIKEBALL
Become an All Star ball player in this unique & exciting Baseball game. Featuring very fast & smooth GFX.

CRIBBAGE
Enjoy this well known classic Pub game in the comfort of your own home. Play with yourself, or in the company of others.

Central Licenceware Registar

DARK THINGS
If your after a cute platform game but one that's not what you could call easy, then get ahold of this.

OBLITERATION
Now here's a game with style, it's across between "Turrican" & Pang. And it's addictive! Not +

PHASE 11
Phase 11 has been highly praised not only for it's great graphics and addictive game play but because of the great price. If you want a shoot'em up with style get this!!

MOTOR DUEL
You've probably seen the PD version of Battle Cars, well this is a great update, and now contains loads more levels.

NORRIS
Take control of Norris in his biggest adventure yet, Norris is a highly addictive platform game & features great music & GFX.

X-SYSTEM V2
This is easily the best quality game ever made with AMOS, multiple levels, includeing Platform & Shoot'em up.

FISH INDEXER
Fish Indexer is a top quality disk database that has details of all the back catalogue fish disks.

TRUCK'N ON 2
A while ago there was a PD game released called Truk'n On, which was imensly popular now it's been Totally re-writen and is better than ever. A great Role-Play game* **2 Disks Only £4.50**

VIDEO TITLER
Do you want produce & transfer Video Titles onto Video Cassette, Well now you can with this great NEW Video titler which is very easy to use & comes with full Docs.

DRAGON TILES
Dragon Tiles first appeared on a cover disk, but now it's been totally updated & features even more levels than before. It's simply atop notch PAIR IT game.

ONLY £3.50 a title, unless stated.

CLR Licenceware disks are also available from other top PD Libraries

RAVE

RAVE GENERATOR
Excellant compilation of some rave tunes

BANGING RAVES 2
Now here's a great disk, over 10 mins long

TEF "GIG MIX"
2 disk mix that never ends. BRILL

ALIEN BREED MIX
James Brown is dead with a difference

SPLIT BEAVER MIX
1 Meg chip only Rave mix, Excellant

THE BOUNCER

"KICKS LIKE A MULE"
Ya name's not down Ya not Cumm'n in. Brillant quality mix of another single.

MIGA MASTER "RAVE HARD"
A trully hot rave mix, lasts for ages.

MIND OF KANE "GLOBAL BIG MAC"
Excellant quality mix from SNAP, A classic Hit.

ACTIV 8 BY ALTERN 8
Excellant 2 Disk mega mix. BRILL

HARDCORE
Features some amazing Rave tracks

DIGITAL DISCO 2
A 2 disk compilation of some stunning stuff

HARDCORE 3
An amazing selection of tracks, Yeah!!!!

CHARLY
Charly says "Always tell your mum to get this"

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1 Single Disk	£3.00
6-10 PD Disks	£1.75
21-99 PD Disks	£1.25
2-5 PD Disks	£2.00
11-20 PD Disks	£1.50
100+ PD Disks	£1.00

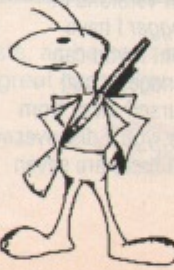
CLR Licenceware	£3.00
FISH Disks	£1.00
Pocket Power Games	£2.99
Blank Disks	59p each
Postage in UK	FREE

ALL Disks work on ANY Amiga unless stated... + = A500+/A600 Compatible, - = Works on 1.3 Amiga's only.

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Our phone lines are open 9.30am - 5.30pm Monday to Saturday. No Answer Phone.
Most orders are despatched within 24 hours, by first class post. Postage is included on all UK orders.
Oversea's orders please add 25p per title ordered.





AMY WALKS AND AMY JOGS

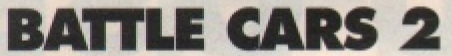
animation

True to his word in CU Amiga's exclusive interview with the man himself a few issues back, and after an abysmal offering last month, Eric Schwartz has finally released his *Jugglette* animation. It's actually only a small section of this three part demo and the real stars are the anims mentioned in the title. This demo looks more like a tutorial as it's a stunning example of how Eric can breath life into his animations. The most impressive of the three is the walking demo and this must rate amongst the most fluid ever seen. Instead of the small sprites used in his other works Schwartz has gone all out with a version of Amy the squirrel which takes up most of the screen. The speed of the demo can be controlled by the keyboard so that you can examine each frame in detail, and once you've seen it you'll be dying to scrutinise every pixel.



DISK NO: 2477 Available from: PD Soft, 1 Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD Price: £2.50 (Including P&P) Tel: 0702 466933





BATTLE CARS 2

game

Here's the sequel to the popular, but terribly uncontrollable *Battle Cars*. The aim of the souped up version is the same as it was in the original. Simply destroy your opponent's car by demolishing its armour and firing a killing shot. The battle takes place in an 800 by 800 meter arena around a series of five tracks. Each car is equipped with 30mm cannons, radar-guided missiles and, in two-player mode, ram plates. It must be said that *Battle Cars 2* is a vast improvement on the original. For a start, there's a slick vector animated intro that spins around the arena and the controls are much smoother and easier to operate. Another addition is a handy feature which scans the arena and keeps track of the opponent's car, telling you where it can be located at all times. I always liked the idea of this game and now that it's finally been done justice I have no qualms about recommending it. The sound effects are excellent and, although the computer player is a bit reluctant to shoot at you at first, it's still a great piece of PD software

DISK NO: CLG09 (Plus compatible) Available from: NBS 1 Chain Lane, Newport, I.O.W. PO33 2QQ Price: £1.75 (including P&P) Tel: 0983 529594



ARAZMAX

game

Anyone who's up to date with our PD pages will remember the great review given to a game called *Microbes*. In *Microbes*, the player had to destroy an ever-multiplying horde of blobs within a circular play area, before they bred sufficiently to break out. In this adaptation of that classic, the game has been opened up and laid out. You now have much more control over the manoeuvrability of your ship and the droid can now float around the play-field arena in order to wipe out the blobs, avoiding the spiralling hazards that delete your energy supplies. Not bad, but it doesn't beat the *Microbes* version for speed and addictiveness.

DISK NO: 1977 Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982





BLITZ

game



If in-depth gameplay is high on your agenda of features you like a game to possess, steer well clear of this one. On the other hand, if addictiveness is what you're after, make sure you add this to your collection immediately. *Blitz* is a reworked version of *Bomber*, but instead of a biplane flying over sky scrappers the craft has been replaced by a space ship and the buildings by a selection of multi-coloured balls. As the ship flies from left to right over the spheres you must drop a series of weapons on them including bombs, missiles and lasers to lower the mound before your space craft crashes into them. The more levels you complete, the more money you will earn and the more elaborate weapons you'll be able to add to your arsenal. They start off simply enough with fire balls that take out a row of four balls at once to a robotic eye that can destroy whole sections of the mound with its own missiles. A tactical aspect is introduced by the computer awarding bonus scores if you take out the balls in groups of like colours. The style of game may be simple, but you'll come back to play it again.



DISK NO: Blitz (plus compatible) Available from: Crazy Joe's, 145 Effingham Street, Rotherham, S65 1BL Tel: 0709 82928





NOVEL

slideshow

Horror book buffs will appreciate this disk more than most as it's a collection of covers ranging from such classics as James Herbert's 'The Fog' to the works of Dean R. Koontz. All the pictures are in black and white and accompanied by the publishing house's details. The eleven pictures change in artistic quality dramatically, but quite why anyone would want to sit through the collection more than once or be subjected to the terrible music is beyond me. Only a few pics are worth seeing so you might as well get the books and expand your mind at the same time.

DISK NO: 1993 (Plus compatible) Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

70%



PD TOP TEN

A-Animation S-Sound U-Utility G-Game M-Miscellaneous S-Slideshow

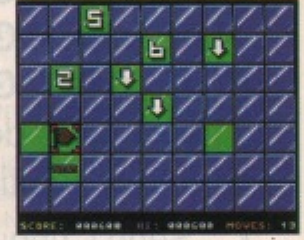
1 Sweet Revenge A
2 E-Type G
3 Beach Babes S
4 Escape G
5 Guess Who? G
6 A Day At The Beach A
7 Page Stream Fonts U
8 Grape Vine Issue 9 M
9 The New Super Killers U
10 Friday The 13th Part 2 A

Compiled by CU Amiga

FLAG CATCHER

game

In *Flag Catcher* you must track down a flag which lies under one of the tiles on a 9x7 play-field. In addition, only a limited amount of turns are available, although others can be collected – and the game gets rapidly harder. A few tiles help you in your search and will point you in the general direction of the target. Others, though, reveal a bomb which flips the tiles that you've already uncovered back over, thus causing more chaos. It's a little low on staying power, but it's worth a look.



DISK NO: G370 (Plus compatible) Available from: Strictly PD, 11 York Place, Nr Brandon Hill, Hotwells, Bristol, BS1 5UT Price: £1.25 (Including P&P)

91%

PUBLIC DOMAIN PD UTILITIES

Mat Broomfield brings you a comprehensive guide to all the best Public Domain utilities currently available.

HARLEQUIN VIDEO ART 1

genlock graphics clips

Despite the hopes of their owners, genlocks generally end up being used for one of only a small variety of purposes, most of which involve titling home movies. Weddings, birthdays, and holidays are frequent candidates for the genlock treatment. This disk, however, contains a variety of images designed to help create slick-looking intros for just such occasions and make life easier. The images cover weddings, anniversaries, birthdays (from new-born to 21st), holidays and European travel.

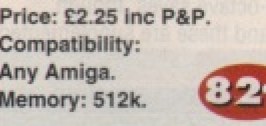
The interlaced images fall into one of three categories – plaques, pictures or ornaments – and the three can be freely mixed. Pictures are simply entire screens denoting the type of event, with space left for the user to personalise them. For example, the holiday screen shows a traditional tropical beach and contains the words 'Holiday in' with space left for the user to enter the location. This would then be recorded onto video tape for the first few seconds as a stand alone title screen.

The other two are provided as brushes, and can either be incorporated into a screen of the user's own design, or simply mixed via the genlock with the video being created. Plaques are 3D-looking images upon which titles can be added. Ornaments tend to include cliched images associated with the current subject matter – for example, horseshoes for weddings, hearts for anniversaries, and the like.

Although the colours of the different categories varies, each image within a category uses the same palette to ensure compatibility. Detailed instructions are also given to help adapt the images to your own colour scheme, and a selection of alternate palettes are also provided. Genlock users can save themselves a lot of time and effort simply by taking a look at this disk.

DISK NO:U380
Available from: Strictly PD, 11 York Place, Nr Brandon Hill, Hotwells, Bristol, BS1 5UT.
Tel: 0272 250992
Price: £2.25 inc P&P.
Compatibility: Any Amiga.
Memory: 512k.

82%





CALORIE BASE

calorie/fat content database

In Britain, as in most Western countries, weight watching and slimming have almost become a national pastime for many people. Ignoring the numerous fad diets which have appeared and disappeared over the years, careful monitoring of one's calorie intake is still probably the best way of achieving sustained weight loss. The only trouble is, you must also know not only the calorie content of everything you eat, but have the time to calculate how much of each food is being eaten as well. *Calorie Base* is designed to take over the time-consuming part of preparing a calorie-controlled diet, and it works admirably.

The program is essentially a database containing all of the most common foods, ranging from Canadian bacon to cocoa powder, and gouda to green beans. What makes it so useful, though, is that it keeps a cumulative total of the calories to be consumed during any meal, and can account for any number of people.

When you start working out a meal, you're prompted to enter the number of diners via a mouse-controlled menu to the right of the screen. When this is set, the main menu appears offering menus for each of the basic food groups (meat, dairy and vegetables, and several miscellaneous groups such as grains, fats and sauces/condiments). Each of these menus will then call up a further sub-menu listing many other types of food by name.

To add an item to the meal total, simply click on its name. The right-hand menu will become active again, prompting you to enter the amount of the selected food to be included. This section is modified according to the food being added, so if you were creating an entry for rump beef, you'd be prompted for a quantity in ounces, whereas blue cheese salad dressing uses tablespoons as its measuring unit. The program will permit amounts as small as one sixteenth of a unit, so the resulting calorie count will be really precise.

When you have selected a food, and entered a quantity, you will be returned to the main menu ready to add another item. Unless you specify otherwise, the program stores a running total of the calories and fat content of all selected items, enabling you to plan entire banquets if you so desire. Its fat content and percentage feature also makes it useful for controlling cholesterol intake, and enables expert chefs to balance out their menus.

This is a really first-rate program, and considerably cheaper than joining a slimming club. With a bit of common sense, this program could be just what you need to get in shape for the summer!

DISK NO: E17
Available from: Ground Zero PD, 4 Chandos Road, Redland, Bristol, BS6 6PE.
Tel: 0272 732978.
Price: £1.40 inc P&P.
Compatibility: All Amigas.
Memory: 1Mb

85%

Make Selection

# People in Recipe	Total Calories	Total Fat Grams	Fat %	Instructions / Information / Clear / Quit
3	0			

DAIRY	BEVERAGES
Milk and Milk Beverages	EGGS, EGG DISHES, SUBSTITUTES
Cheeses	FATS, SHORTENINGS, OILS
Toppings & Yogurt	FISH, SHELLFISH, SEAFOOD
Ice Cream	FRUITS (A - O)
GRAINS	FRUITS (P - W)
Breads	NUTS AND SEEDS
Flour, Pasta & Misc. Grains	POULTRY
MEATS	SAUCES, CONDIMENTS, GRAVIES
Beef	SUGARS, JAMS
Lamb and Veal	VEGETABLES (A-CE)
Pork	VEGETABLES (CH-O)
Organs and Misc. Meats	VEGETABLES (P-S)
Sandwich Meats, Franks	VEGETABLES (T-Y)
	MISCELLANEOUS

HOW TO COMPILE A DISK

tutorial

In our Q&A section, I frequently receive questions from people who are trying to compile their own demo or utility disks. It seems to be something that many people want to have a go at, but frequently become stuck in the numerous processes involved.

However, A Bit On The Side have clearly gone to a lot of trouble in compiling a disk which contains every program the beginner is likely to need, as well as a detailed step-by-step tutorial describing the many stages involved. The tutorial is extremely comprehensive, and goes into great detail about each operation – even informing exactly how long it should take to format a disk. Normally, the tutorial is on disk, would make it a little bit inconvenient as the user can't read it and compile a disk at the same time unless he owns two Amigas. On this occasion, ABOTS have really excelled because they're including a printed copy of the instructions with each disk, for the user to peruse them at their leisure.

With the exception of a copier and a boot utility, all the other programs are Kickstart 2.0 compatible, so Amiga Plus users will also be able to benefit. The disk includes the classic keymap editor,

Setkey, which allows you to assign entire command sequences to a single key. It also contains *Sid 1.06*, one of the best directory tools around, *Text Ed*, a nice simple text editor, *Powerpacker*, the industry standard compression program and *Boot X*, a virus killer. It's especially nice to see the latter being included, because I think that people should be taking precautions against viruses right from the word go.

If you want to learn about disk compiling, this is probably the best way to start. Check out the text file on this month's coverdisk to find out more.

DISK NO: HTC.
Available from: A Bit On The Side, 8 Thornald Place, Kirk Sandall, Doncaster.
Tel: 0302 887332.
Price: £1.50 Inc post and packing and printed instructions.
Compatibility: PD Copy and Boot Utility don't work with 2.0 machines, but everything else works with any Amiga.
Memory: 512k.

90%



ALGORHYTHMS

algoryhtmic music software

Almost since the birth of written music, people have been trying to find an easier way to create tunes. As there are only a finite number of musical forms, and a limited number of different ways to arrange the notes of a piece, much effort has been devoted to seeking a mathematically-based answer to the problem.

Algorhythms is a program which adopts such an approach, using algorhythmic equations to calculate the different musical elements. Unfortunately, although I consider myself a moderately competent musician, I just could not understand the manual supplied with the package, and consequently cannot go into a great deal of detail about the inner workings of the program.

The program has been written by Thomas E Janzen, and although I've never heard of him, the manual seems to suggest that I should have. He's been involved in developing new systems of musical arrangement and notation, and judging by this program, he's into some pretty heavy stuff. *Algorhythms* has been designed for MIDI users only, and its full definition is (very deep breath) 'An algorhythmic composition program which uses sinusoidally-varying parameters'.

If that still hasn't put you off, you'll find that the program is well worth a look. Tunes are represented by four sine waves representing the pitch, rhythm, dynamics, and texture of the music. The sine waves may be of any amplitude and frequency, and can begin at any point within their phase. As a tune is played, a line moves from left to right along the waves, denoting the portions which are currently playing. By altering the shape and thickness of a wave, the music is also changed. For example, if the frequency of the pitch waveform is increased so that the waves are much closer together, the change to high-pitched notes, from low ones, will be much faster – and vice versa.

Music can be made to play in many scales ranging from the simplicity of C Major, through to the ultra obscurity of Messieanic mode 7! The pitch range, and channel setting of each voice can be defined according to your preferences, too.

Professional MIDI users will be pleased to notice that creations can be recorded as a MIDI file for export to other, less esoteric MIDI programs such as *Bars And Pipes* or *Dr T's*. However, you may have to do a little messing around to align the pulse and tempo timings once you've imported a score. Also, it's very hard to assign a value to this program. At times it creates inspirational results, but just as often it creates a cacophonous din!

If you have any interest in music (professional or amateur), and your tastes perhaps lean towards modern jazz, Cantonese string music, or Bebop, this program may surprise or even delight you. Equally, if you're a professional musician seeking a new musical form, this could provide the basis for your own personal renaissance. But what the heck! If you've got a MIDI instrument have a look for yourself, it's only £1.50!



DISK NO: F606.
Available from: PD City, 119 Ballards Walk, Basildon, Essex.
Tel: 0268 412645. Price: £1.50 Inc P&P.
Compatibility: Any Amiga.

73%

SUPER SOUND II v2.1

sample editing software

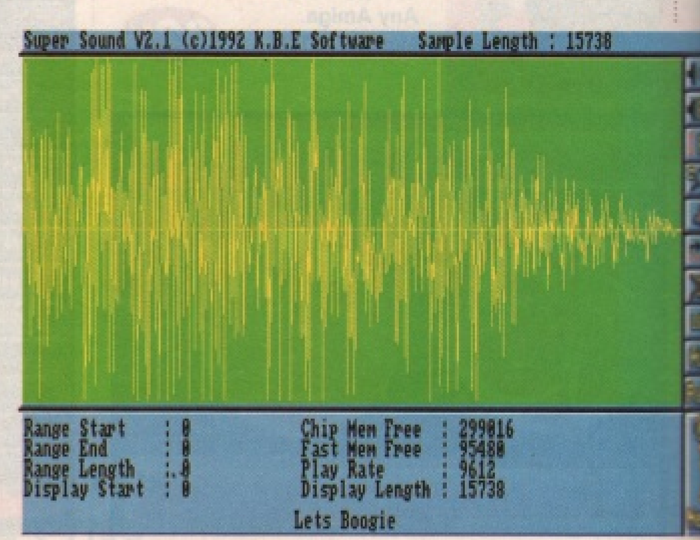
There's never been a really decent Public Domain sample editing package – until now! With the release of *Supersound II*, Amiga owners have an editor which has features even the commercial packages don't! Before I start, I should just mention that the PD version of *Supersound* limits you to a sample size of about 65K, but as most instrument samples are considerably smaller than that, it shouldn't be too much of a problem.

The program looks very professional, and when you take a look at the two effects menus (which contain 18 effects), you can see how much trouble David O'Reilly, the program's author, has taken over it. Of course, it has all of the other features one expects to find in a sound sampler, such as multiple buffers, variable rate sampling, replay, and a very powerful magnification feature. However, it's in the area of special effects where it really scores very highly.

It includes options such as variable bass and treble boost which can enrich a sample, but it also has unusual options such as Wahh In, which gradually enhances the brightness of a sample. It does so by counteracting the effects of the Amiga's high-pass filter which tends to remove parts of a sound which are sometimes desirable. *Supersound* can output both IFF and RAW samples, but it can't deal with multi-octave saves, though.

The program has a bank of icons to control its main features, and these are supplemented by seven quite full menus. One minor gripe is the program's loop feature, which simply seeks out the zero points in a sample with no consideration for the phase of the loop points. This is only a small point, though, as personally I prefer to set my loops manually.

The full commercial version of this program will only cost eight pounds, whilst a printed manual is available for three pounds. If you don't already own *Audiomaster III* or *Audition IV*, give this a very close look, you may be pleasantly surprised.



DISK NO: U707
Available from: NBS, 1 Chain Lane, Newport, IOW, PO30 5QA.
Tel: 0983 529594.
Price: £1.75 inc P&P.
Compatibility: Any Amiga.
Memory: 1Mb



MOAN CORNER

Before I start this month's column, I've just got to moan about the falling standards of PD presentation over the past few months. I'm not going to name names, but certain PD companies have been putting out a lot of stuff containing their own intro screens, etc, that either isn't theirs to be changed around, or doesn't work after the intros have been put on.

PD companies, if you must muck about with other people's compilations, at least check that the disks work after you've hacked them about. And another point that really gets my goat are the endless compilations which all contain identical versions of the same utilities, but mixed with other equally over-used programs. How the hell are people supposed to work out which disks to buy if you keep rehashing the same old stuff – sometimes even renaming it?

TOTAL CONCEPTS DINOSAURS

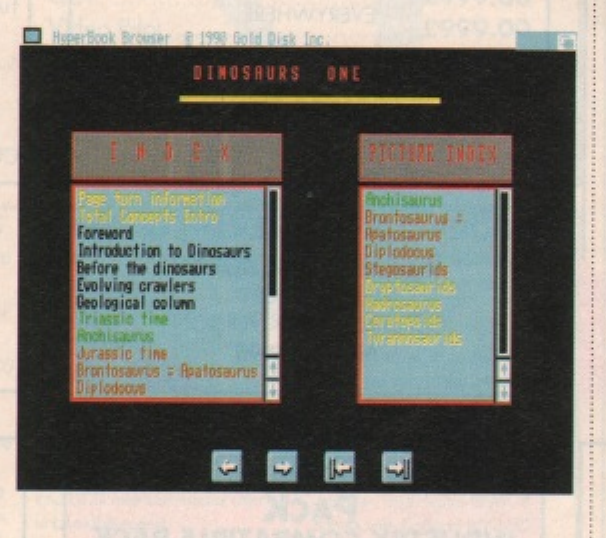
education

Although the fossilised remains of dinosaurs have been discovered countless times since mankind first walked the Earth, the earliest recorded fossil was discovered as late as 1814. Since then, dinosaurs have remained as one of man's most enduring fascinations, evoking a sense of wonderment in adults and children alike. This is probably because they were the living embodiment of a million fairy tales and monster stories. *Total Concepts* is a new range of educational/general interest titles designed using *Hyperbook*, which presents the dinosaur story in an up to the minute way, that's both very easy and entertaining to use.

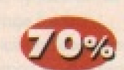
The program is split into two parts: text and pictures, each of which can be viewed separately from the other. The text comes in the form of a single large file which can be either read from end to end, or dipped into at particular points of interest. A menu indicates the available chapters and, after a brief introduction, these chart the evolution of dinosaurs from their aquatic days, until their extinction at the end of the Cretaceous period over 65 million years ago.

At various points throughout the text, graphic ovals appear, and clicking on one of these reveals a digitised picture to supplement whatever the current subject may be. One or two of these pictures are a little dubious in quality, but generally the digitising is superb.

This is an ideal program to supplement the junior school curriculum covering the subject, as the text, whilst thorough, is written in a lucid and interesting manner. By the same token, because there's not too much text, it makes interesting reading for non-students who may be interested. A very nice program. Well presented, easy to use, and interesting. Check it out.



DISK NO: PE011.
Available from: Valley PD, PO Box 15, Peterlee, Co Durham, SR8 1NZ.
Tel: 091 5871195.
Price: £1.25 Including P&P.
Compatibility: Any Amiga.
Memory: 512k



PLAY590

long sound sample player

Although the Amiga has capable sound sampling abilities, these are severely hampered because samples can only be played from Chip Memory. For most people, this means that they're limited to a maximum sample size of 512K, and even A500+ and A3000 owners can only use 2Mb at a time.

Play590 is a great little routine which will replay samples stored in Fast RAM, or on disk. In doing so, it also lets you increase the sample frequency up to 32,767Khz. As its title suggests, it's actually been designed with hard drive users in mind, and when used in conjunction with a 40Mb drive is capable of replaying an entire album of sampled sound in one go!

Of course, the major obstruction to replaying long samples is the ability to record them in the first place. The program's author suggests that you should use one of the numerous linker programs to join your samples together once they're on disk. However, if you own *Audiomaster III*, these also contain a utility which lets you sample straight to drive in the first place. Because *Play590* only occupies one sound channel per sample, it's thus theoretically possible to replay four entirely different tunes simultaneously. With a bit of care, all you home DJs could start a whole new trend in mixing! The program is very easy to use, and will work with samples stored on hard drive, floppy disk or any form of RAM. Essential software for sampler owners!

DISK NO: U706.
Availablerom: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA.
Tel: 0983 529594.
Price: £1.75 inc P&P.
Compatibility: Any Amiga.
Memory: 512K



DISK TOOL BOX

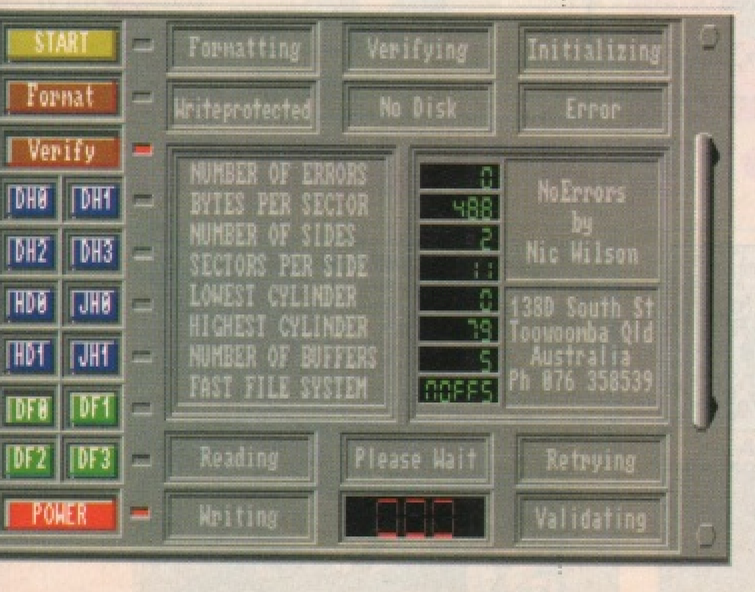
disk utilities

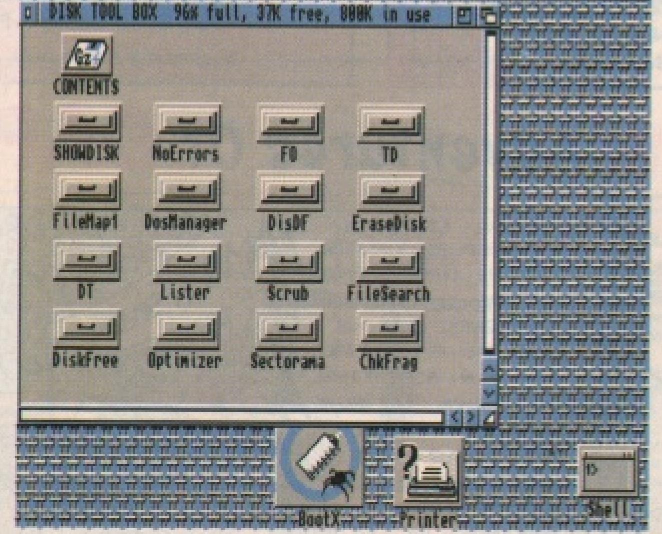
It wasn't until I accidentally deleted some valuable files from my hard drive recently, that I realised how few disk utilities I owned. Fortunately, I had *Quarterback Tools* to hand, but if you haven't got such a luxury, this disk contains a few very useful tools. Although it doesn't contain anything to retrieve deleted files, it does, however, include several other tools which are identical to those found on the *Quarterback* disk.

Perhaps the most useful of these is called *No Errors* which lets you continue to use disks which contain hard errors. These are faults caused by physical damage to the media and, unfortunately, AmigaDOS doesn't usually detect such faults when writing to a disk. This means that if you get a faulty disk, you should destroy it, rather than risk writing valuable data on to it.

No Errors searches through a damaged disk, and marks the faulty sectors 'Out of Service', thus prohibiting AmigaDOS from attempting to write to them. Also on the disk are two optimiser programs, which restructure the data on your disks so the space is used to better effect. It arranges the files more logically and the information can thus be retrieved faster and with less irritating grinding as the heads step back and forth looking for the fragmented data.

Another invaluable program (especially for hard drive owners) is a file location program called *File Search*. Simply specify the volume to be checked and the file to be found (wildcards are also supported), and *Search* will hunt through every directory and sub-directory until it's found whatever you are looking for.





DISK NO: U158.
Available from: Ground Zero, 4 Chandos Road, Redland, Bristol, BS6 6PE.
Tel: 0272 732978.
Price: £1.40 per disk inc P&P.
Compatibility: File Search only works with 2.0 machines, but everything else is compatible with all Amigas.
Memory: 512K

73%

If top service is not enough just take a look at some of these price comparisons with other so called top Amiga retailers taken from Amiga Shopper July issue or by phone on 9th June.

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If you bought CDTV and are now living to regret it read on

"..Commodore made multimedia available to the masses with the Dynamic Total Vision (CDTV), but it looks set for dinosaur status in the light of Philips' impressive Compact Disc-Interactive (CD-I). Chris Cain's (Senior Staff Writer PCW) comparison of the two systems gave him the best hardware experience he's had for five years...."

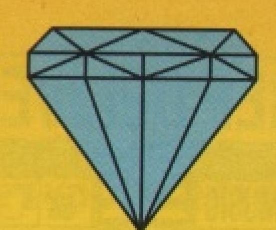
Personal Computer World July 1992

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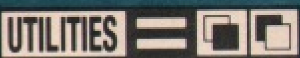
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blue pages

Welcome to the blistering Blues where each month a dedicated band of Amiga enthusiasts wax lyrical about everyone's favourite home computer and offer tips and advice on how to get the most out of your machine. This month we've got the concluding part of our huge mouse round-up, the second part of our OctaMED Pro tutorial, the third and final instalment in our ARexx series, and all our regular columns and pieces of trivia. And that still leaves room for Q&A, where our readers can get answers to their technical queries and problems, and the ever-controversial Points of View. Take it away...

contents...

In the second installment of our comprehensive mouse round-up, Mat Broomfield reviews another selection of rodent controllers to help you choose the perfect control device...

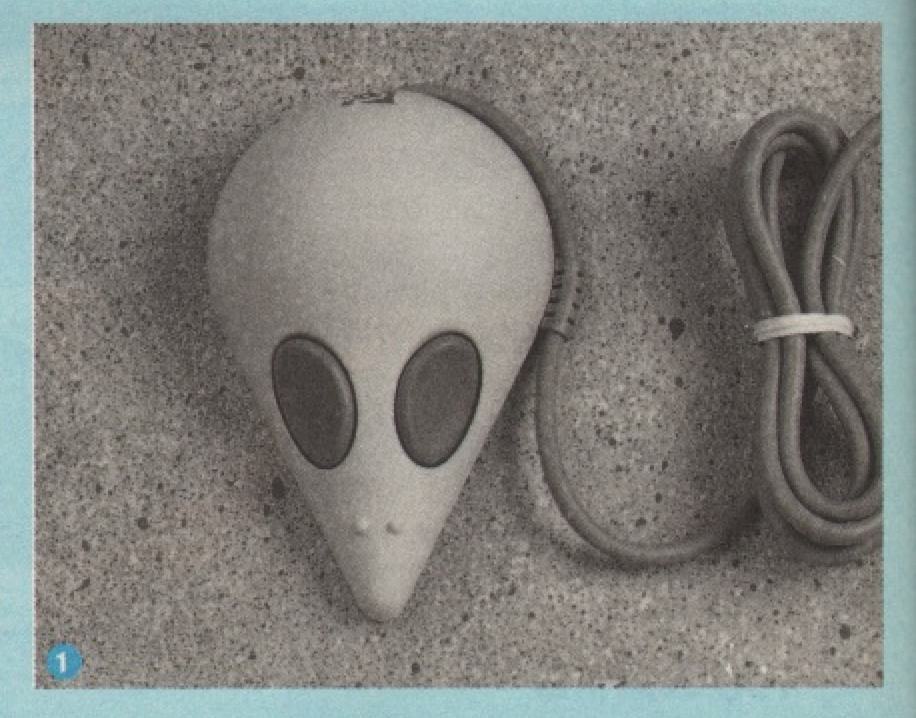


mouse round-up

COMPLETE CONTROL

Last month, I reviewed what seemed to be the main contenders for the title 'Mouse of the Year'. This month, though, my desk has suddenly become infested with new devices, and the number one spot (currently held by the Contriver and Power mice) is under heavy attack.

This month I'll be looking at some more contenders which show that a Mouse doesn't have to be designed as a boring rectangular lump of plastic. It's also apparent that such control devices don't have to stick to the conventional shape either, and our batch we review this month contain two very unusual-looking units indeed...



1 KIDZ MOUSE

LOGITECH (0344) 891313
£32.00

When I first saw this mouse, I thought that somebody was having a joke at my expense. The Kidz Mouse looks like one of those novelty items which are born as the result of a drunken conversation, but never really serve any useful purpose. Why my scepticism? Well it's the shape of the thing: it's been designed to look like a real mouse – complete with snout, tail, and little eyes!

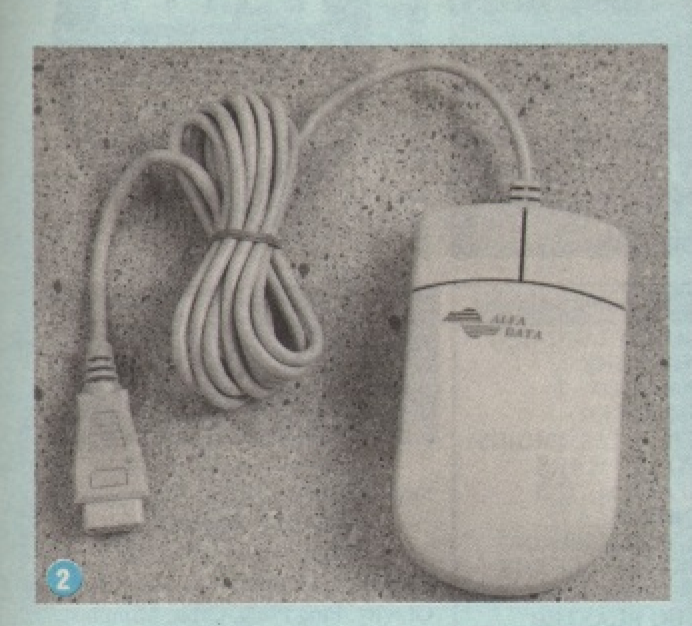
In my experience, hardware which has been designed around the shape of an animal usually ends up being a bit of a pig (or dodo – choose your own analogy!). I offer you the Cheetah Tortoise joystick and those sitting duck phones as examples. As you can tell by the name, this particular mouse has been designed especially for kids, and is safe for any child of three-years-old or more. It has a dinky little shell which will fit snugly into small hands. In addition, where a real mouse's ears would be, this little beastie has two bright blue buttons.

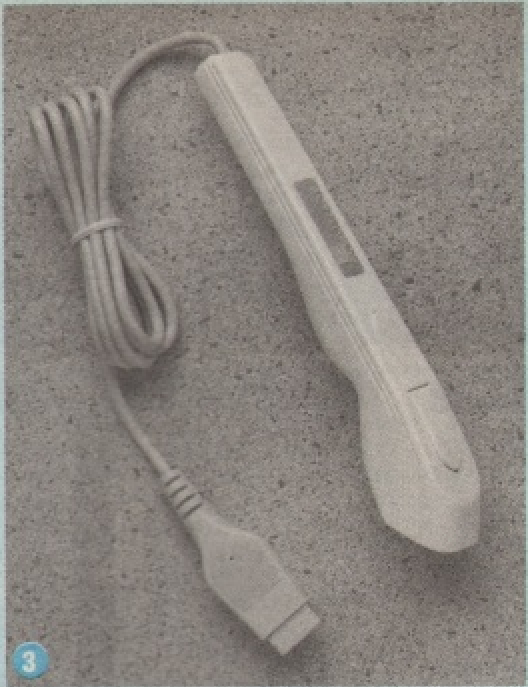
The ball is smaller than usual, and the ball cover is Philips-screwed into place to prevent inquisitive little hands from getting to the ball, and perhaps choking on it. Uniquely, the cable extends from the rear of the mouse (beneath where your hand sits), but it's secured to the side of the mouse and guided towards its front.

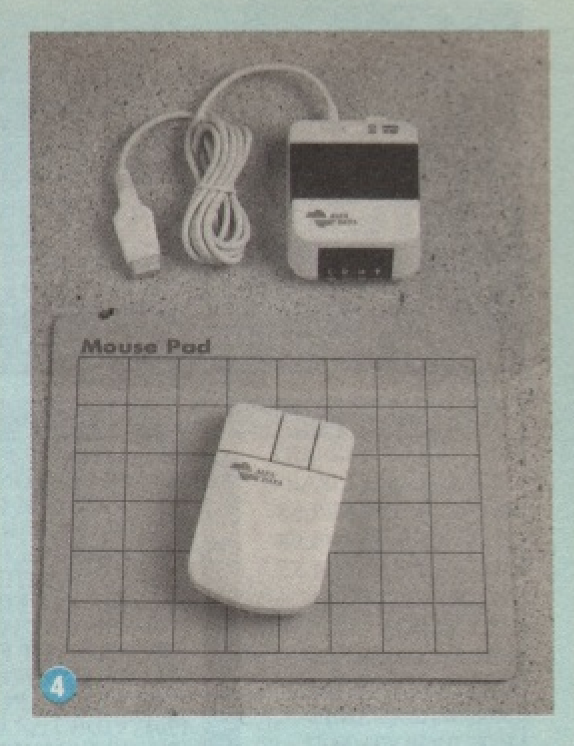
At 200 DPI, it has quite a low resolution, but this is belied by the unit's responsiveness. As the Kidz Mouse is too small for adult hands to hold in the traditional way, I found myself adopting a more arched hand position, almost as though I were doing press-ups with my fingers – weird as it may sound, though, after a brief period of familiarisation, I found this unusual position quite comfortable. More importantly, I felt that I had far greater precision in this position than in my more common hand position.

In all honesty, it's with surprise that I can report the Kidz Mouse to be a great success for both kids and adults alike. It's light, yet well-made, looks cute and feels very positive – everything a mouse user will appreciate, in fact. It's just a pity it's so expensive.

RESPONSIVENESS 90%
ERGONOMICS 80%
DURABILITY 90%
PRICE 50%
INNOVATION 70%
OVERALL 76%







2 MEGA MOUSE

GASTEINER TECHNOLOGIES
081 365 1151
£14.95

Back in the days when replacement mice were only just gaining popularity, a company called Naksha released a mouse which, at the time, was a pearl amongst swine (?! – Ed). Unfortunately, they changed their design soon after, and the ergonomics which made their original mouse so popular were seemingly lost forever. It'll come as no surprise then, if I tell you that the Mega Mouse is exactly the same as the original Naksha, and was made at the same factory.

To be honest, the ergonomics are not quite as impressive today as they were but, even so, the mouse nestles snugly into the palm of the hand, giving very positive control. It also has the fastest and most sensitive microswitch buttons I've used on any mouse, and they require very little pressure to activate them.

Although its resolution is not specified, I suspect it's probably 290-300 DPI, although it feels much higher because the mouse is so smooth and responsive. The whole thing is reassuringly solid, and proves quite durable although the thick cable turned out to be the weak spot on my previous mouse. A nice mouse at a very fair price.

RESPONSIVENESS 95%
ERGONOMICS 87%
DURABILITY 70%
PRICE 85%
INNOVATION 60%
OVERALL 79%

3 THE BRUSH

GASTEINER TECHNOLOGIES

081 365 1151
£29.95

In the quest to find new input devices, we've seen the light pen and the graphics tablet, and now Gasteiner bring us The Brush, a hybrid of the two. The Brush is basically a mouse stuck on the end of a pen, with the two buttons mounted on its upper side near the stem.

I had high hopes for this, but unfortunately none of them have been realised, which is a pity because the basic idea is very sound. There are three main problems, which between them, detract from the unit's usefulness. First, its resolution: at 150 DPI it's the lowest resolution of any device tested, and this tends to make smooth control very difficult – try as I might, I just could not draw a smooth circle in *DPaint* using it. Instead, everything ended up looking like a square with slightly curved corners.

The second problem is the positioning of the buttons. The left button is the lower of the two, and is moderately comfortable to use, but because the right button is higher, this proves quite uncomfortable. The problem would be alleviated if the left button were halved in size, and the right button moved down by a centimetre.

The final problem is in the action of the small plastic ball used to register the user's movements. It's housed in a square casing about two centimetres on each side. This casing is only fractionally higher than the level of the ball which means that you have to keep the pen virtually vertical all the time it's in use. Some kind of ball pen-type arrangement would have worked better.

In the unit's favour, it requires a very small working space, and as long as you're not drawing or using the right button extensively, it feels quite comfortable. It's also relatively cheap – but these plus points hardly make it an essential purchase.

RESPONSIVENESS 50%
ERGONOMICS 50%
DURABILITY 60%
PRICE 70%
INNOVATION 95%

4 ALFA DATA INFRARED MOUSE

GASTEINER TECHNOLOGIES
081 365 1151
£44.95

One of the most annoying things about using a mouse, is that its cable keeps getting tangled up. It's also the cable that's usually the first part to break. The infrared mouse transmits your movements to a receiver in exactly the same way as a TV remote control does, negating the need for any wires at all.

My first impressions were disappointing because the mouse seemed to cause the screen cursor to act as if it were on a rubber band and had been accelerated with a program such as *DMouse*. This was caused by the slight delay between my movements and the on-screen cursor's reaction. After a short while, I realised that if the mouse is moved a little more slowly, it behaves exactly the same as any other mouse.

In styling, the mouse is very similar to the Contriver mouse reviewed last issue. It sits comfortably in the hand, but doesn't represent state of the art as far as ergonomics are concerned. It claims a transmission angle of 45 degrees, with a receiver angle of 70 degrees. My own findings contradicted this because, providing the mouse was within the receiver's five foot range, and in sight of it, I found that there was no angle at which it wouldn't work.

At high speeds, the mouse becomes a little unpredictable, but its 260 DPI resolution is more than adequate for 'normal' requirements. The receiver also doubles as a recharger for the mouse, so whenever you replace the mouse on its stand, it gets a quick top-up. A very exciting mouse, at a moderate price considering the technology.

RESPONSIVENESS 75%
ERGONOMICS 85%
DURABILITY 70%
PRICE 80%
INNOVATION 95%
OVERALL 81%

5 AXELEN MOUSE

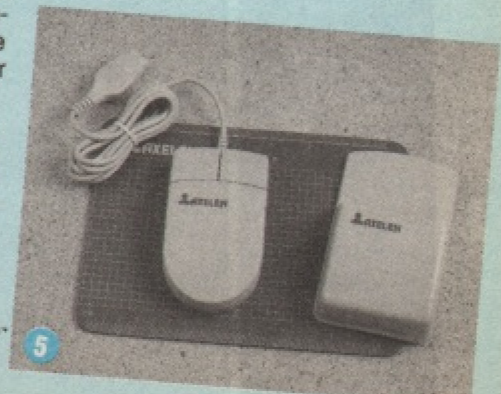
GASTEINER TECHNOLOGIES
081 365 1151
£15.95

If this mouse were a car, it would be a Ford Sierra. It has no sporty curves or flashy racing trim, and it's not the fastest nor dearest thing available. It's just good, solid, reliable engineering, with a little touch of style.

The Axelen is a switchable mouse which can toggle between Amiga and Atari machines. Although made of plastic, it's quite heavy, and I suspect that this may make it a little brittle if dropped too many times. The buttons give a nice definite click, and are perfect in terms of responsiveness. Although it doesn't have the almost organic shape of mice such as the Zydec, it fits very comfortably into the palm. At 300 DPI, it has a high resolution, and this is reflected in smooth and positive control when using art packages.

The package comes complete with a mouse house, and mat, and represents good value for money.

RESPONSIVENESS 85%
ERGONOMICS 65%
DURABILITY 60%
PRICE 80%
INNOVATION 50%
OVERALL 68%



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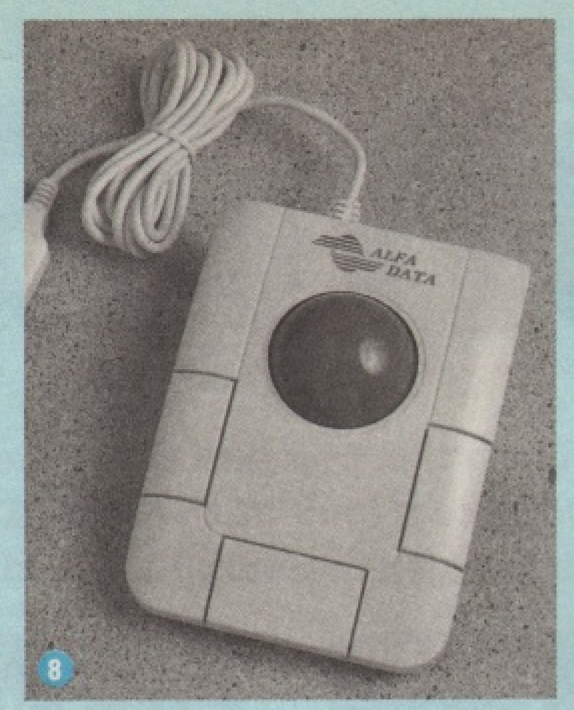
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mouse round up







6 LOGIMOUSE PILOT

LOGITECH
(0344) 891313
£27.00

Initially, the most outstanding thing about the Pilot is its high price. Can it justify such a price tag? Well, in some ways, the answer is yes. For example, it's the most stylish, and features the best construction of all the mice in our round up. It also comes with a two year guarantee. The unit is shaped like a quarter circle, giving it a very high-tech look. I'm still not sure that I like the low-slung back in terms of comfort, though. It's not exactly uncomfortable, but it feels quite different to what I'm used to.

At 200 DPI, the mouse has a lowish resolution, but, like its cousin the Kidz Mouse, the Pilot feels very smooth. Its feet are slight weak point as they're not as slick as they could be and it requires a little more effort to actually move the device across the surface of a mouse mat.

The Pilot looks and feels well made. From its precisely fitted buttons, down to its perfectly fitting bottom shell, there doesn't seem to have been a single corner cut anywhere. I think that it will take a little bit of getting used to, but when you're comfortable with it, I think that the Pilot will serve you faithfully for a long time to come.

RESPONSIVENESS 90%
ERGONOMICS 80%
DURABILITY 95%
PRICE 60%
INNOVATION 70%
OVERALL 79%

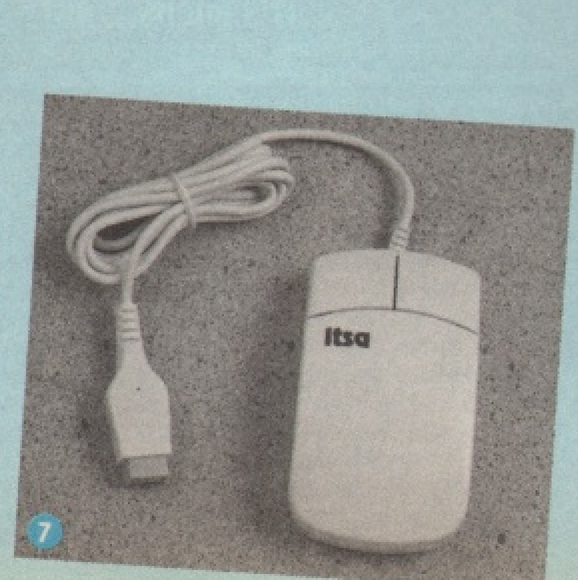
7 IT'SA MOUSE

FIRECREST DISTRIBUTION
(0291) 690933
£12.95

Returning to my earlier car analogy, this mouse would definitely be a Skoda or a Lada. It works fine, but there's no style value whatsoever. Although it doesn't look as if it's undergone much ergonomic styling, it feels substantial in the hand, and its shiny plastic shell is very appealing.

Screen movement is smooth, although not as responsive as it could be. The buttons have a nice positive feel to them, and although the mouse doesn't seem as though it's been constructed to last until the year 2000, I don't think it's likely to fall apart in your hands either.

RESPONSIVENESS 65%
ERGONOMICS 65%
DURABILITY 65%
PRICE 80%
INNOVATION 60%
OVERALL 65%



8 TKB-MT-A TRACKBALL

GASTEINER TECHNOLOGIES
081 365 1151
£34.95

Here's an input device which is ideal for disabled people, or users who don't have a lot of desk space. It uses the same technology as a standard mouse, but instead of rolling a ball across a mat, you roll your hand across the ball which juts up out of the top of the unit.

It features large left and right buttons located to the sides of the unit, and a third 'auto-fire' button at the bottom. Pressing the auto-fire button has the same effect as pressing the left button continuously, without having to keep the left button depressed. The unit only has a resolution of 162 DPI, and this is noticeable when using art packages. The ball is large and well balanced, so it feels as if there's something of substance beneath your fingers when using it. Due to its weight, the ball can be freely spun, whizzing the cursor in whichever direction you require. For non-precision operations, this more than makes up for its low resolution.

It takes a bit of practice to make precision movements, whilst pressing a button, especially using only one hand. As the unit isn't constantly being moved around the desk top, durability isn't such a problem, but it nevertheless comes with a two year guarantee, and looks as if a tank manufacturer may have had something to do with its design.

I tested the unit at every angle from horizontal to upside down and it worked fine in each case. This means that users with severely limited mobility, could have the track ball mounted at any angle within convenient proximity of their hands. I wouldn't chuck out my current mouse in exchange for this, but it makes a nice addition to the collection!

RESPONSIVENESS 50%
ERGONOMICS 75%
DURABILITY 99%
PRICE 70%
INNOVATION 70%
OVERALL73%

9 CAL MOUSE

GASTEINER TECHNOLOGIES
081 365 1151
£34.95

Last month, when reviewing the Golden Image Optical mouse, I told you how disappointing it had been. Now Alfa Data (a Golden Image affiliate), have stepped in to restore the good name of optical mice everywhere.

As you may recall, optical mice require a special mat to work properly, and the Golden Image mouse suffered because its mat kept bending, causing a drop in responsiveness. This problem has now been ironed out, and the Alfa Data mouse uses a mat which is attached to a rigid backing for maximum control. Speaking of control, the mouse has an impressive resolution of 300 DPI, but unfortunately even this cannot compensate for the inherent inability of optical mice to draw smooth diagonals and curves at slower speeds. But this only becomes a problem if you're using an art package of some description.

The mouse is pleasantly styled, and both buttons have finger-locating ridges so that it can be used without looking at it. The best thing about this mouse, though, is that it never needs cleaning, and it doesn't have a ball which can get stuck from time to time.

Although it's not so hot with the art packages, this is a real luxury mouse, and will enhance anyone's Amiga.

RESPONSIVENESS 75%
ERGONOMICS 80%
DURABILITY 70%
PRICE 80%
INNOVATION 90%
OVERALL 79%

inside information

Want to know what's what in the wild and crazy world of computers – then look no further. First of all, we take a look at the recent CES Show's many offerings, before taking a trip down memory lane and visiting the charts...

SUMMER MADNESS

Over 150,000 visitors flocked to the CES in Chicago last month. Rik Haynes tricked his way past the lengthy queue for a first look at *Elite II*, *SimLife* and the rather promising future of electronic personal organisers...

ENTERTAINMENT USA

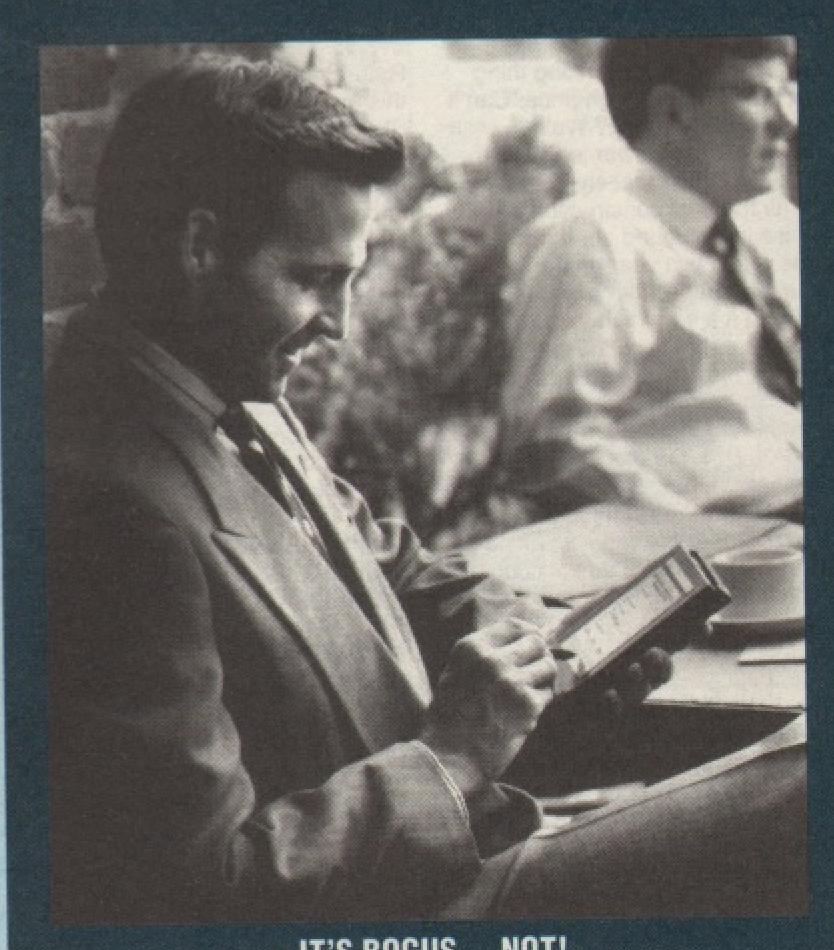
Since 1967, leading players in the consumer electronics industry have come together every six months to showcase the latest goofy gadgets and wacky widgets from their R&D labs. Back in the early days of CES, naive people predicted far out stuff like the 3D holographic TV and robot housekeeper were just round the corner. There's never a shortage of crazy ideas at this event and, in spite of domination by Nintendo and Sega, the Amiga can still sport a few corkers. It's just that you have to hunt around for them.

The biggest surprise of 1992 was to be found hiding away on a small video monitor deep inside the Konami stand. After years of waiting and much speculation in the press, *Elite II* has finally made its debut. And, judging by the short demonstration running next to *Teenage Mutant Ninja Turtles IV* and *Batman Returns*, programmer David Braben has done us proud. Fans of his first venture into interstellar trading and combat will be glad to know they can now travel down onto the surface of planets and battle gigantic spaceships across the galaxy and beyond. Unlike that lacklustre Amiga conversion of the original *Elite*, Braben is taking care of the second outing himself. This means impressive 3D graphics matched by gameplay that requires a little more thought than the average shoot'em-up in outer space. Judging by the success of *Wing Commander* and *Epic*, no self-respecting Trekkie will want to miss this one. If all goes according to plan, *Elite II* should be released later in the year accompanied by a flood of frenzied coverage in the media.

While we're talking about sci-fi adventures, SSI was proudly showing off a new graphics engine and two stonking games to go with it. Some pundits have previously complained about the shoddy look of games from this strategy specialist. Now the word is out, this phenomenon is strictly a thing of the past. The first game to employ the striking combination of skilled artists and sophisticated CAD packages, simply titled *M*, is a space fantasy with isometric 3D view, smooth scrolling, cinematic sequences, continuous musical score, easy going point 'n click interface and such like. European distributor US Gold has pencilled *M*, *Great Naval Battles: North Atlantic 1939-1943* and *Dark Sun: Shattered Lands* will be available on the Amiga in late autumn.

BUSY MAXIS

Following on from *SimAnt*, Maxis is busy preparing more highly original 'software toys' for an unsuspecting public. Although there was nothing to be seen of *SimFarm* in Chicago, the company was happy to give selected audiences a preview of *SimLife* and *El-Fish*. The latter title, co-developed



IT'S BOGUS... NOT!

Groovy gizmos and great games are nice but were there any truly innovative developments at the Consumer Electronics Show? Well, yes. Apple took this opportunity to reveal the next generation filofax come electronic personal organiser. Except Newton is much more, of course. It's actually the first glimpse at a revolutionary device that bridges the gap between personal computers and consumer electronics. Sharp has licensed Newton technology from Apple and both companies should have the first commercial product ready in early 1993. This will be a pocket-size electronic notepad that intelligently helps you capture, organise and communicate the most powerful commodity in the late 20th century – information. Simply write down notes, plans and ideas as you would with a pen and paper. Newton is right smart and can understand dodgy handwriting or clean up rough sketches. It also keeps track of everything that's important to you, ranging from mum's birthday and the phone number of the best Italian restaurant in town to remembering mortgage payments and organising a meeting with the boss. You don't have to worry about boring stuff like filing procedures and operating systems. Best of all, this information can be sent to another Newton, desktop computer or fax machine without the hassle of cables. Labelling Newton as just one more electronic personal organiser is like comparing the Macintosh with a Sinclair ZX80. There is no comparison.

by the author of *Tetris*, can be described as the ultimate aquarium with an inexhaustible supply of electronic fish and plants. You'll never have to worry about cleaning the tank or feeding the goldfish again. Budding biologists and nutty naturalists should check out *SimLife* which allows them to build their own ecosystem from scratch. Another twist in the continuing procession of god sims, players can even experiment with genetic engineering and the laws of physics. Sadly, it's doubtful if Maxis will transfer any more products over to the Amiga. Send your witty protests and comments to CU AMIGA at the normal address and we'll pass them on.

Perhaps the start of an ambitious expansion scheme, Westwood Associates – the Las Vegas software development outfit responsible for *Eye Of The Beholder* – was acquired by Virgin Games just prior to CES. On a more immediate note, Virgin Games and Trilobyte stole the show with *7th Guest*. This landmark CD-ROM project has the best graphics yet seen in a computer game. Seasoned actor Vincent Price might be providing the chilling commentary for this epic production, too. Don't hold your breath for the CDTV conversion, though.

Sierra and Dynamix were both concentrating on the PC as usual, although *King's Quest VI: Heir Today — Gone Tomorrow, Space Quest V: The Next Mutation,* and *Riftwar Legacy – Betrayal At Krondor* may make it over to the Amiga sometime in the distant future.

WEIRD LICENSE

Meanwhile, our award for strangest license announced at CES goes to Capstone Software for the forthcoming Amiga game based around ITV's LA Law. Players apparently get legal advice from Arnie Becker, Grace Van Owen and, erm, the cerebrally-challenged Benny. The Brits are much better judges of what the kids really desire. With that thought in mind, Ocean is the lucky owner of the hottest property at the moment – *Lethal Weapon 3*. Psygnosis, on the other hand, is forging ahead with *Microcosm, Lemmings II* and secretive deals with a Hollywood movie studio.

Unsurprisingly, an abundance of *Sonic* and *Mario* clones and sequels could be seen on every single console format. Taking this factor into account, the big boys threw in a few tricks and gimmicks to inspire the punters to buy. Sega is licensing popular Amiga games like *The Secret Of Monkey Island* and *Another World* onto its CD-ROM accessory for the Megadrive while Nintendo, in a vain effort to expand the rather limited horizons of the Super NES, launched a mouse and paint package.

As for the other gear on show, home theatre appears to be the next big fad in America. Instead of enduring severe bum ache on some dirty cinema seat, a new breed of techno couch-potato is equipping their living rooms with 16:9 wide-screen televisions, THX speakers constructed into every wall and laserdisc systems for perfect playback. Next on the shopping list will probably be a portable hot dog/popcorn making machine. This is just the tip of the iceberg. What about a nice Digital Compact Cassette deck from Philips, Panasonic and Technics? Or the rival Mini Disc courtesy of Sony? Or the Philips TV that can automatically locate the remote control hidden under your sofa? Or the CD-player from Denon capable of holding a staggering 200 compact discs? Or Sony's handheld global positioning device for tracking your exact position by satellite? With so many expensive toys to choose from, you'd better start writing those begging letters to Father Christmas and your oh-so-kind (not!) bank manager.

TOP 20 AMIGAS GAMES

1 SENSIBLE SOCCER (Renegade)
The boys did good! Sensible's cracking Footy sim gets the recognition it deserves and hits the top of the league.
CU Screenstar, 91%

2 EPIC (Ocean)
DID's answer to Battlestar Galactica took a while to get here, but it's blend of fast 3D and action has made it a winner. CU Screenstar, 91%

3 JAGUAR XJ220 (Core Design)
Core's answer to the *Lotus* series thrashes its way past the competition - and rightfully so. CU Screenstar, 90%

4 STRIKER (Rage)
New kids on the block, Rage, follow hot on *Sensi*'s heels with their stunning 3D Soccer game. A stunning debut.
CU Superstar, 95%

5 MONKEY ISLAND II (U.S. Gold)
Spanning no less than eleven disks, *Monkey II* is a stunning epic of an adventure and a classic in every respect.
CU Superstar, 95%

6 THE MANAGER (U.S. Gold)
Still hanging on, U.S. G's Footy management sim is one of the better of its kind – but will Krisalis's Graham Taylor licence knock it from its perch?
Not reviewed

7 THE ADDAMS FAMILY (Ocean)
Quite simply THE best platform game ever to grace the Amiga. There's load to see and do in this absolutely stunning Mario clone, and an essential buy.
CU Superstar, 95%

8 MYTH (System 3)
System 3's massive revamp of their 8-bit smash finally makes its chart debut.
Not reviewed.

9 FIRE AND ICE (Renegade)
Andy Braybrook's Cool Coyote runs and jumps across dozens of colourful platform-laden screens – excellent stuff.
CU Screenstar, 85%

10 PROJECT X (Team 17)
After several weeks at the top, Team 17's incredible blast has started to slip down the charts.
CU Screenstar, 92%

11 CHAMPIONSHIP MANAGER (Domark)
More management malarkey as Domark enter the fray. Typical run-of-the-mill stuff, but you know what to expect.
CU Awarded, 84%

12 GRAHAM TAYLOR (Krisalis)
Krisalis have pretty much cornered the Footy genre, and *GT* sees them enter the bustling the management arena.
CU Awarded, 81%

13 GRAND PRIX (Microprose)
It's been almost a year now, but still Geoff Crammond's stunning simulation is hanging in their. A genuine classic.
CU Screenstar, 93%

14 DIZZY'S EXCELLENT ADVENTURES (Codemasters)
The Codies return a selection of Dizzy's greatest – and very similar – exploits (even though some of the Dizzy links are rather tenuous). A worthwhile package.
Not Reviewed

15 JIMMY'S WHITE'S SNOOKER (Virgin)
Quite simply the best Snooker sim ever, and one that programmer, Archer Maclean, will be pushed to surpass. Another 'must have'.
CU Screenstar, 90%

16 EYE OF THE BEHOLDER II (U.S. Gold)
More adventuring antics, as the tried and tested game engine of the original is expanded and improved to create a classy sequel. CU Screenstar, 92%

17 PACIFIC ISLANDS (Empire)
The sequel to *Team Yankee* proved a little to similar for out tastes, but there's still no doubting that this is solid – if predictable – stuff.
CU Awarded, 83%

18 JOHN BARNES (Krisalis)
Compared to the likes of *Striker* and *Sensi*, this is a very poor relation. Still, some of you obviously rate it...
CU Awarded, 75%

19 PARASOL STARS (Ocean)
Bub and Bob's third outing may not be as good as *Rainbow Islands* (but what is?), but the brolly-bashing action is streets ahead of the competition.
CU Superstar, 95%

20 A320 AIRBUS (Thalion)
Dropping slowly, Thalion's Airbus seems to be leaving the top twenty after weeks of rising and falling. A very complex and detailed, but very rewarding, flight sim.
CU Awarded, 81%

THE WAY WE WERE

THREE YEARS AGO

• *Populous* was riding high in the chart, Batmania firmly gripped the media, people wanted to hear INXS in clubs around the country and Greenpeace set sail for the Pacific in Rainbow Warrior 2.

• Described as a 'dismal dirge' by staff writer Mark Heley, *Tom And Jerry* from Magic Bytes attracted the truly appalling score of 26% and promptly disappeared without trace. What a waste of tiptop license potential...

• After their acrimonious split from Commodore, some of the original Amiga designers finally resurfaced at Atari as masterminds behind the revolutionary Lynx video game console. If you were tempted by the charms of this colour handheld, look out for *Batman Returns, Shadow Of The Beast, Rolling Thunder, Eye Of The Beholder* and *Lemmings* in the coming months.

TWO YEARS AGO

• Fact or fiction? Nolan Bushnell, the guy who started the video game industry with the launch of Pong, predicted the availability of consumer Virtual Reality toys within the next three years.

• Like the elusive Super Mario Brothers movie, Sierra suggested its infamous computer game character, *Leisure Suit Larry* would eventually make it across to the big screen. Yeah, we're still waiting for that one.

• Of course, we're still waiting for the Amiga conversions of this month's top rated product like *Wing Commander* (Origin) and *SimEarth* (Maxis). However, those brave souls desperate for their dream game could actually create something themselves thanks to the launch of Europress Software's *AMOS* package. In the meantime, Microprose had *F19 Stealth Fighter* to tempt the impatient Amiga gamester looking for thrills, spills and some commies to bash.

ONE YEAR AGO

• Programmer Kevin Bulmer, then working on the *Terminator II* game for Ocean, lost his development system to a bunch of sneaky thieves. With the benefit of hindsight, I only wish the burglars had stolen the game instead.

• It wasn't all doom and gloom. The legendary Anti-Lemmings Demo by Eric Schwartz impressed everybody – including Psygnosis itself. A humorous send up of the award-winning game, this short animation revealed how one ingenious little critter would cope with an attack from a Stealth Fighter. Generally regarded as the best demo of 1991, don't let it slip by without a look.

• Bogus, dudes! Why did Accolade bother releasing the most untriumphant *Bill And Ted's Excellent Adventure*? However, fans of this totally bodacious movie will be pleased to hear the Fox network in America has started to air a spinoff TV series. Keep your fingers crossed for a debut on satellite in the near future. Party on.

BACKCHAT

PC THREAT 1

I must comment on your views that the Amiga is still the best machine to buy. Okay, so I've been pleased so far but, just recently, I'm starting to get more than a little worried. Although I can hardly claim to own every piece of software in existence I think I have a fair spread of titles. I use *Deluxe Paint IV*, *Pen Pal*, *OctaMed* and often play games like *Grand Prix* and *Jimmy White*, plus the aging but great *Prince Of Persia* and *Falcon* amongst others. As you can see you could hardly argue that I'm buying the wrong software. But I'm starting to panic. Okay, so you regularly ridicule PCs in articles like your DTP piece and you keep telling us we've done the right thing in getting Commodore's offering, but how can the bog-standard 500s and 1500s compete in today's market especially with the latter's price? I mean £1000 for an A500 in a bigger box and a cluster if empty slots? Do me a favour.

The PC is a superior machine and that's a so-called Amiga fan speaking. A 386 can be found if you shop around for a grand and a bit. S'cuse me, but isn't that the same price as a 1500 with a hard drive and monitor? Yup, thought so. I used to think my blocky 32-colour graphics were the best going – but then I saw 256 Super-VGA which were FLICKER FREE! Suddenly 16-colour Hi-res seems rather crap. A 386 chip is going to make a 68000 look rather snail like isn't it? What about sound? Hmm. Not too bad, but on a PC, a hard drive is standard and on a Amiga it's a luxury. Even a 500 plus hard disk costs at least 700 quid.

I think that the last point sums it all up. All these hard drives are expensive extras, so few games are going to use them. You can accelerate an Amiga with a faster Motorola, but then the prices soar and most software won't support it anyway.

And after that we are still stuck with 32-colours. As far as I'm concerned, CBM had better move fast. If they don't get the 68020 standard in the 500 and 68030s in 1500s then the machine won't be able to cope with PC-developed software, and the games just won't be converted. The colours need to be changed fast. I've heard plenty of rumours but what use are rumours to anyone. We need at least a S-VGA matching display if not a better option. Hard drives need to be standard. CBM's lightweight A590 is overpriced at £300. CBM started the 16-bit explosion, but now they seem to be getting left behind.

I hope I'm not ranting too much, but I'm getting worried about ending up with an obsolete machine. After all, don't you want to see games like *Ultima Underworld* on the Amiga? At the moment we can only stand back and watch the PC getting further away.

David Walker, Norfolk.

PC THREAT 2

During this turbulant time for the Amiga and its users, I felt the need to put a few thoughts down on paper to help me decide what to do. After moving up from an Amstrad CPC nearly a year ago, my Amiga was the love of my life: stunning graphics, stereo sound and some dazzling games. My neighbours, one with a PC and one with a seriously expensive Macintosh, were made to watch the Bart Simpson intro. Much wailing and gnashing of teeth on their part was the result.

My particular interest has always been Flight Sims, strategy games such as *Railroad Tycoon*, and the odd RPG. Don't get me wrong, I like a good shoot 'em up, but when you reach the advanced age of 41, you get sick of every seven-year-old punk showing you how to get extra sonic torpedoes on level 92.

Now, twelve months on, my Amiga is no longer the coolest kid on the block. 'Only 32-colours on screen?' snorts the PC owner, demonstrating *Monkey Island 2* in glorious 256-colour high resolution. Leading-edge developers are creating games for the fast 386 machines with roomy hard disks and sound cards, and whose prices are in free fall due to the price war between chip manufacturers. Anyone hoping to play an Amiga version of *Ultima VII* can forget it, as it takes up 21Mb of hard disk space!

Many Amiga magazines, including yourselves, are going into Ostrich mode. Your response to E. Grey's letter in the latest issue is laughable; your defence of the Amiga is that it is constantly evolving (yes, but only if and when Commodore decides), that PCs are hugely expensive (check out the prices, they are falling daily), and that the Chart Show and Tomorrow's World use Amigas. The 279 different manufacturers of PCs must be shaking in their boots about that!

The future of the Amiga as an evolving computer for the masses is in doubt. It will continue to find a niche market in the video/graphics fields, just as the ST has in music, but arcade game fans will buy a console, and games publishers will only releases license tie-ins and budget compilations. With the advent of very cheap PCs on the horizon, the concept of the 'Amiga as a Home Computer' is dead, and the machine will be on life support anytime now. Does anyone agree?

Martin Badkin, Leighton Buzzard

COVERMOUNTS

I was shocked and disgusted when, whilst reading through the letters page in your latest issue, I saw your thoughts concerning cover-mounted games and utilities. It's bad enough that games aren't allowed on covermounts, let alone utilities going up the spout as well! The Amiga is, as you know, a very versatile and powerful machine, yet most users will never exploit even half of its uses due to the high cost of software.

Recent superb covermounts have, in a small way, redressed the balance, but there is still a huge number of utilities waiting to be snapped up. I understand that it costs money to buy these programs, and for that reason the magazines need to go up in price, but I would sooner pay £3.95 for a magazine with a good quality commercial utility on the front than £2.95 for a magazine with a few barely useable demos.

Johann Hari, Edgeware.

Complete commercial games disappeared from coverdisks last year because of an industry-wide ban. There was a general feeling that covermounts devalued commercial games, so the unofficial governing body of the software leisure industry introduced the ban. As regards full-price utilities, we'll go on putting them on our coverdisks as long as the competition does, but it's an incredible drain on our finances and, in the long run, its the punter who suffers. We have to find the money from somewhere (we don't get them for nothing, you know), so other parts of the mag will end up being starved of cash.

Of course, if we didn't include coverdisks, the magazine would cost only £2, and that's the point we were driving at in our reply. Should we drop our coverdisks altogether? Or keep the format we have now?

GIVING THE GAME AWAY

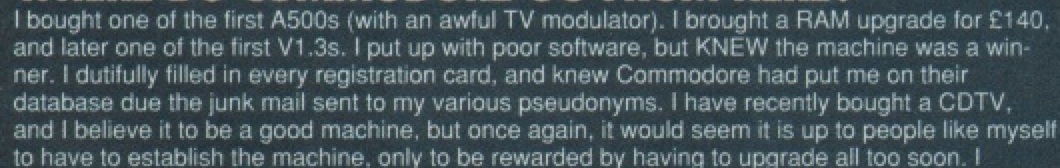
After playing *Monkey Island*, and completing it, I needed something else to while away the small hours. I read a review of the PC version of *Monkey 2* and it looked better than I'd hoped. Realising it would be a few months before the Amiga version would surface, I placed an order for it, and waited with anticipation.

Then, in June, Jakki Brambles gave out tips on the air on how to complete *Monkey 2*, even before it came out on the Amiga.Why don't companies release their games across all formats simultaneously, as with Ocean's *Epic*, and save us a lot of heartake with premature hints and tips appearing in magazines.

Mr S Doughty, Derbyshire.

WHERE DO COMMODORE GO FROM HERE?

LETTER of the MONTH



I bought one of the first A500s (with an awful TV modulator). I brought a RAM upgrade for £140, and later one of the first V1.3s. I put up with poor software, but KNEW the machine was a winner. I dutifully filled in every registration card, and knew Commodore had put me on their database due the junk mail sent to my various pseudonyms. I have recently bought a CDTV, and I believe it to be a good machine, but once again, it would seem it is up to people like myself to have to establish the machine, only to be rewarded by having to upgrade all too soon. I expect the CDTV will eventually be released with Full-Motion Video and hard drive as standard, at a competitive price, but once again, Commodore will ignore people like me. I don't expect something for free, but just to write to us, offer us the upgrades at reasonable cost and to feel they give a damn would help. My next step would normally be to buy an A600, but I've decided to buy a new 386 PC instead. I don't think it's as good, but I know I'm not going to be left feeling bitter again. I'll keep the CDTV for the software I have, but the A500 will go.

Dave Walker, West Sussex.

We've heard three good opinions regarding the future of Commodore's machine, but we'd like to hear more of what you think. If we get enough, we'll devote an entire letters page to your views.

set up your own bullet

Is setting up your own board as hard as it appears? Comms expert Dave Burns goes under-cover to find out...

EASY WHEN YOU KNOW HOW?

PART 4

As promised last issue, we are going to spend the next few issues looking at how to use your Amiga to set up your own BBS. There are many types of software available from PD to incredibly expensive commercial software. This month, we will look at a PD Program, and next issue we will discuss how to set it to run through a mailer program with a batch file to allow you to join some of the many networking boards

LINK ESTABLISHED

Interfacing with the technology that makes comms possible we are now hooked up to two international information networks.

Firstly, we have a local email echo on the Hotel BBS (063 483 1389) – through Fido net. You can send us messages via any board that supports this echo and, although we may not reply instantaneously, you can be sure that your comments and messages are being read and that we will get back to you (remember that we still have a magazine to write). We can accept your technical queries, opinions and letters for publication via email.

The other way you can contact us via your modem is by calling CIX. CU Amiga have their own conference there where you can post your insults or your queries direct to the people that matter. This conference is divided into several parts, including one which lets you download files .

CIX is a subscription only board, so you do have to pay for the time you are connected.

If you want to contact us via either of these systems you should email "Daniel James Slingsby" on the Fido CU Amiga echo or "cuamiga" on the CIX network, or alternatively join the CU Amiga conference, imaginatively titled "cuamiga". (CIX is on 081 3908446)

We hope to be extending our coverage of the UK via modem at a local level. Whilst we will be thinking up new ways to get in touch with you, you could tell your local sysop to pick up the CU Amiga echo on his board.

See you online soon

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ATh

in board

that are available around the world.

FALCON.BBS is one of the most popular of the Amiga Shareware BBS Systems, and for a very good reason. The software itself comes with a document file which is roughly 100 pages long and covers everything from unpacking to running the board. Written in plain English, the writer has spent a lot of time making sure that you, the user, will have no trouble setting up and running your own board, either as a stand-alone board, or as a fully networking board.

Falcon is Shareware, which means that you are able to set it up and run it, but if you find that you like it and plan to use it on a regular basis you must send the registration fee to the author, which not only will make him a happy man, but also ensure that you get the updates as they are produced.

INVENTORY TIME

So, aside from the software, what else is needed to set up and run a board? Well obviously you need a modem. The minimum recommended speed is 2400 as no user likes to log on at a lower speed, especially if they plan to upload or download files to your system. You also need a couple of good compactors – decompactors, not only for the files you put up for users, but also to test files that are uploaded to you. The other important item you will need is a hard drive. There is no way in reality that you can run a board from floppy as the speed is very limiting, and once you have the board software set up, there is no room for messages or files.

OK, everything is together, let's roll up our sleeves and set to work. First print out the document file provided with Falcon. This is a must as you will be referring to it quite a lot – not only when you set up, but also as time goes by. I have been running a system for quite a while now, but still need to refer to my docs. Clear a space on your hard disk and create a directory called BBS. Into this create some more directories, Text files, Fonts.IBM, MSGS\GEN, FILES\GEN. Following the instructions in the doc files, decompress the system files to the relevant directories. You now have the basic board set up. Easy wasn't it? Go into the config program and fill out a few details such as the name of your BBS, Your name, and the maximum baud rate your system can handle. Now log in and see what you have got.

The first thing you will notice is that the screens are not yours. This is no problem as they are Text files that you can alter with a word processing package, or even create your own. If you have set the config as per the docs, you will find that you have all the facilities of Sysop, and can make a lot of changes from within the system. There are a few message areas, but you can add and delete your own as you like. You can also decide what level of user is allowed access to what areas of the board. You have ultimate power! Experiment, play, push a few buttons. This board is so easy to set up that if you do make a complete mess, its a simple job to scrap the lot and start again.

ABSOLUTE POWER

As a Sysop you not only have power, you also have responsibilities. The act of setting up a board means that you are allowing the general public to call your board. The thrill as users log on is awesome, but so is your responsibility. You are to blame if users leave abusive messages, You are to blame if users upload commercial programs to your system. If a shopkeeper stocks magazines of an abusive, illegal or offensive nature he will be busted, not the writer. The same applies to a BBS. It is your job to make regular checks of what is left on the board. If a user regularly abuses the system you have the power to lock them out. I have noticed that Sysops are a friendly lot, incredibly helpful and always prepared to offer advice or assistance. As a Sysop you are never alone!. One chap who is very helpful is Stephen Anderson who runs Amiga Junction 9 on 0372 278000. Why not give him a call and see what his board looks like? As a bonus, the Falcon BBS software can be downloaded from him, or if the telephone bill is a worry, log onto his board and make arrangements for a copy on disk. You can also leave any questions you have or general messages for CU Amiga here – we want to know what's going on out there.

GETTING GOING

In next month's column we are going to look at how you can make your BBS into a fully networking board, allowing people to leave messages worldwide simply by calling your board. We will also be looking at offline message readers which allow the modem user to take all the new messages as a compressed file and read / answer them offline – thus saving pounds off your normal phone bill! So, if you want to know what's what in the Amiga comms scene, you know where to come! So make sure you ask your newsagent to reserve you a copy of CU Amiga, or better still, why not subscribe – you know it makes sense!

WHAT IS A SYSOP?

A Sysop is someone that is prepared to tie up a computer and modem to provide a bulletin board service for other computer owners. A Sysop tends to be at his keyboard for long hours every day improving and adding to his system. They will also get to know their regular callers and is always ready to stop what he is doing and have a chat 'online'. A Sysop is not a Techie, or even a programmer. They are someone who enjoys their computer and wants to share his hobby with others. You could be a Sysop...

GATEWAY TO ANOTHER DIMENSION

On my travels to bring you the best in the comms world I came across a board known as the CYBERSPACE GATEWAY. This is most definitely the place to be if you want loads of files to download, Message bases galore, online games or even 'Live Chat' with other users from all over the country or even the world. The board is a subscription board, which means to join in all the fun you will need to pay a subscription, but unlike other subscription boards you will not have to pay anything else. No 'Online' Charges, no Download charges, nothing!

Why should you call this board? How about because I say so? No? Well let's take a look at it and see what's on offer. The most popular area is teleconference where you can go to chat to whoever happens to be there at the time either publicly or in private. You can even 'Whisper' so that only the person you want can read the message even if there are 20 people online at the time. There is an online shop where you can order goods and services, like an internal 2400 baud modem complete with software for a mere £59 (this includes a 5 year warranty). Maybe games are what you want. Then why not play blackjack against other users, live, and gamble credits. Or how about a trip to the races? Bet on a horse and watch the race. Text or graphic adventures? It is all here. Another great feature is Dateline. Go to this area, fill out a form, and wait for the person of your dreams to reply, or even search for the person of your dreams and send them a message.

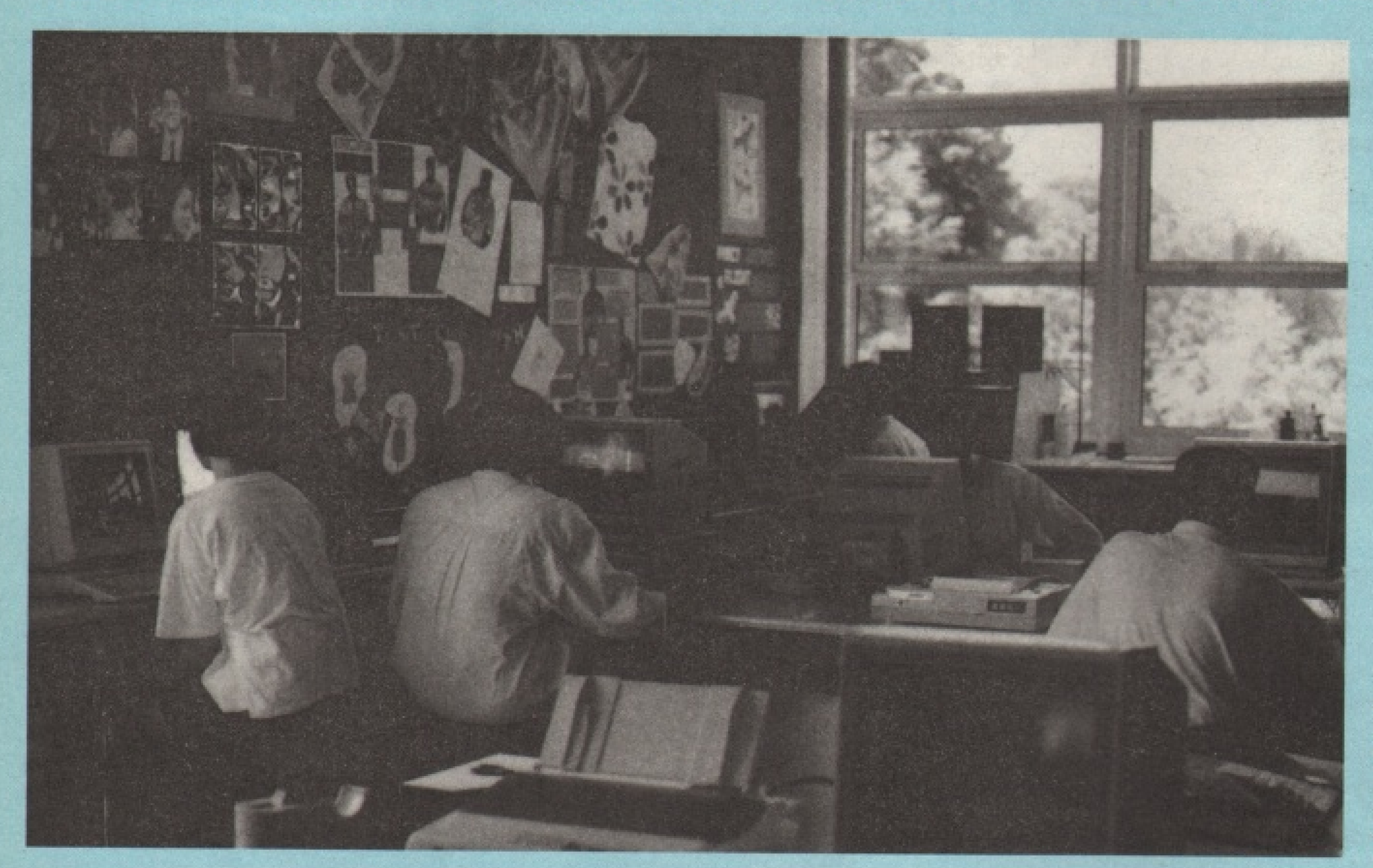
CYBERSPACE GATEWAY is not a board you can explore fully in one visit, or even in a lot of visits, but no matter what you are looking for you will find it here, including 600+ Amiga files where the sysops don't care if you download everything. As an added bonus, if you want a look, you can log on and access everything for half an hour absolutely free! Give it a go, and tell Wendy (One of the Sysops) that I sent you.

The number to dial is 071 580 6433 (24 hrs). You can even leave a message to me directly by sending E-Mail to 'JOURNO'

NEXT MONTH... We take a look at more boards and events appearing on the bustling comms scene.

testing ti

Not all 'educational software' calls itself that. Mike Gerard went in search of alternative mainstream programs and talks to a Commodore software tester about what he thinks is the best educational software on the market.



Despite Acorn's previous dominance in the schools market, at last the Amiga is gaining the respect it rightfully deserves...

TOP OF THE CLASS

Which is the best piece of educational software available? You might be surprised at the choices from Wilf Rees, a Northumberland teacher who sees more software than most in his capacity as a tester of educational programs for Commodore. Wilf recommends the art program, *Deluxe Paint IV*, and the word processor, *Wordworth*.

'The best programs,' in Wilf's view, 'are not necessarily those that are labelled educational. I think it's very difficult to label something as "educational" or "non-educational" because these are grey areas. We use the same kinds of facilities in school as are used in industry. If you need to use desktop publishing then you desktop publish and use the appropriate package. All these kinds of things are happening in schools, so I don't think you can necessarily label something as educational software, unless it's so narrow that it's specifically targeted at developing some particular aspect of the National Curriculum.

'In terms of English,' Wilf Rees says, 'then the thing that you need more than anything else is a word processor. The facilities that are built into word processors these days, like thesauruses and spell checkers, serve to enhance the quality of written education. I'd recommend *Wordworth* as probably the best of the word processors: it's got good saving facilities in lots of different formats, it's word processing that's almost desktop publishing.'

ON TEST

Wilf is Head of the Creative Arts Faculty at the King Edward VI School, in charge of a bewildering variety of subjects such as art and design, CDT, home economics, PE, music, drama, expressive performing arts and technology. The school is in Morpeth, the county town of Northumberland, about 14 miles north of Newcastle. Morpeth is one of the smaller county towns with a population of only 15,000, but King Edwards has some 1240 pupils in the 13-18 age-range, with 360 in the 6th form. It figured in a recent Guardian poll of the Top Twenty State Schools, and always features highly in terms of its examination results. Its high profile is due in no small measure to its headmaster, Michael Duffy, who writes regularly for the back page of the Times Educational Supplement as well as appearing on television and being involved with various government bodies.

It was this high profile that led in part to Wilf Rees's role as a software evaluator. 'The software testing,' he explains, 'developed in two main ways. First of all was Commodore's original support scheme, whereby they put a few people in the field to help develop educational practices in various areas. When I heard that the scheme was going to happen I immediately nabbed the fellow who'd been put in charge locally, who was an ex-teacher from Tyneside. In fact, we knew more than he did, initially, but we worked together which is the best way to do it.

'What also happened was that I got invited down by Commodore to a few of the seminars that were going on at shows, like the PET Show at the Barbican, and got to know Peter Talbot, who became their National Business Development Manager. Through that, various people were brought to the school to see what we were doing, people who were developing Amiga hardware and software. The relationship between Commodore and ourselves grew to the extent that one day I got

mes

a letter from them saying that they were inundated with software, and would we be interested in field-trialling some of it for them?'

EVALUATION

The software which Wilf Rees receives is at the stage of being almost ready for release, and his job is, as he says, 'to knock the corners off'.

'We're looking for anything whatsoever. It may be the relevance, it may be the way in which it's presented, it could be anything. We report on any aspect of the software which we feel could be improved or is inappropriate and doesn't do what it's meant to do, or which could do more than it does or whatever.

'When it reaches us it's virtually ready to go. It comes with manuals, though sometimes it's not boxed, it's more likely to be in a polythene bag. We've never found anything seriously wrong, they've got past the stage of having major flaws. That kind of thing really has to be ironed out at the design stage. They're looking for us to confirm that it is relevant to what they claim it to be relevant to. Let's say they're aiming at National Curriculum Key Stage 2 Science then it must answer National Curriculum Key Stage 2 Science and not miss out any of the vital attainment targets that should be there. Those are the kinds of things that we address as well as the quality of the software itself in terms of how well it does it, what the overall feeling of the piece of software is, in terms of its price, that kind of thing.

'I also run in-service courses for my authority and surrounding authorities on using IT in various aspects of education and obviously Commodore were interested in this too. It means I would be able to put software out – say it was Maths software aimed at 8-11 year olds, I'd share it round the various schools in the area and say, "would you have a look at this and be prepared to write me a couple of sides of A4 on these specific points?" It's a nice cheap way for them to get it tested, for the price of one piece of software. We let dozens of pupils and a few teachers loose on it, and the testers are happy to do it as they get to keep the software.'

AMIGA REVOLUTION

There are seven or eight other schools in the area using Amigas: 'Amigas are very popular up here,' Wilf confirms, 'very popular indeed.'

Amigas, though, were totally unknown when Wilf arrived at the school about five years ago, to find a single BBC-B micro. He added three Archimedes 310 machines within a few months of arriving, but he admits: 'This was more out of ignorance than anything. It happened to be the latest model at the time, which cost a lot of money, but it turned out to be a blind alley. They couldn't be upgraded in terms of expanding the memory, so I was stuck with these things with 1Mb memories, which were very clever and sophisticated 32-bit machines but restricted.

'I was looking round to get something else and I'd heard of the Amiga but never seen one in action. I was introduced to them by a local dealer, at Microtech in Morpeth. He suggested I come and see them, and I've never looked back from there. I started off by buying one, then I bought another three, then I bought another five, then a couple more! I'm not sure how many we've got now, I'd have to go round and count them, but we're well into double figures. And we've gradually built up various add-ons, things like digitisers – audio and visual – hard drives, samplers. In fact, if anything comes on the market I tend to have a go at it, see what they do.

'They're housed in a resource centre, and used right across the curriculum. The way in which I use IT is not in a specific task-orientated way. The kids are introduced to them, how they work and so on, but from then on it's a resource centre that the pupils can move in and out of when they want to perform a particular task. So, for example, if a kid's working on something and wants to present it as a bit of desktop publishing, they come in and do that, go away, they find they want to digitise an image, they come and do it, and so on.

'What's nice is that we have another resource centre in the school which is much better equipped in terms of money spent on it, which has got PCs and Archimedes and all sorts of other things, but we get kids coming from around the school into our area because they're familiar with the Amigas. They have them at home, you see, they can work on software in school. They can move files in between home and school. It's quite nice because at the end of the day we have to tell the kids to clear off because we all want to go home!'



Commodore themselves have proved very helpful with school queries, and are quick to recommend the software needed for particular areas of education.

TOP OF THE CLASS Which software would Wilf recommend to parents? 'I looked at something called Maths Adventure a little while ago from Kosmos and particularly aimed at younger children and that was quite good. I've just done another one which is smashing, called *Spellbound* from Lander Software. That's a really good bit of software, very clever, it makes you think and it's entertaining. In terms of value for money the PD market is always worth looking at. There's some very good selection of stuff in the Public Domain. All of the Fish disks are good as are the T Bag releases.

'If they're looking in terms of developing the kids' interests in the computer as a tool rather than as a games-playing machine, things that will have relevance in terms of what they're doing at school, two or three products come to mind that I'd recommend. Tekno-Amiga is one that's just come onto the market from HB Marketing. That's an Input-Output interface which allows control for electronic experiments by plugging a hardware device into the parallel port. It allows you to do a lot of experiments with it. It's also extremely well supported with good documentation on electronics and the nature of components.

'Then there's a nice package from Genisoft called Compendium 6, with six different programs. One is Weather Watcher, which allows you to collect data and input measurements from various external devices like maximum/minimum thermometers and produces all the data as statistical graphs, bar charts and so on. Something like that has a tremendous use in the physical side of geography. It's a nice package.'

And what's the most popular educational program in the King Edward School at the moment? 'Deluxe Paint IV, without a doubt. It's a tremendous bit of software really. I think it's probably the best bit of software for any home-based personal computer. And very educational.'

EVERYTHING YOU NEEDED TO KNOW ABOUT...

AREXX

PART 3

Whether you are new to the Amiga system, or an experienced programmer developing prototypes or interfaces, ARexx is a great little language to use. Learning to use it efficiently adds an extra dimension to its versatility. It's lucky Alex Gian is here to show you how, really...

USING IT!

This is the third and final part of our 'Introduction to ARexx' series. In the first part, we had a look at the basics of the language and its general structure, whilst last issue we looked at two of the more novel aspects of ARexx – its parsing and its debugging facilities. Each of these sections has also been accompanied by a section giving a detailed summary of all the ARexx instructions and functions. With another contained this issue, you should now have a complete ARexx mini-manual.

This time we look at more specific ways to use ARexx – ways that are distinctive to the language, and which will help you get the most out of it. In particular we will look at the following two areas in some detail: the custom ARexx ports, and the various ways they are used in interprocess communication; and the various methods of storing data in the memory, whether by the use of variables, or by writing to it directly. This is quite important as, in certain cases, it can lead to substantial speed increases.

1 THE AREXX PORTS

We already know that ARexx uses ports as the means to send messages. So what exactly is a port? In order to get a clearer idea, we must first have some understanding of multi-tasking.

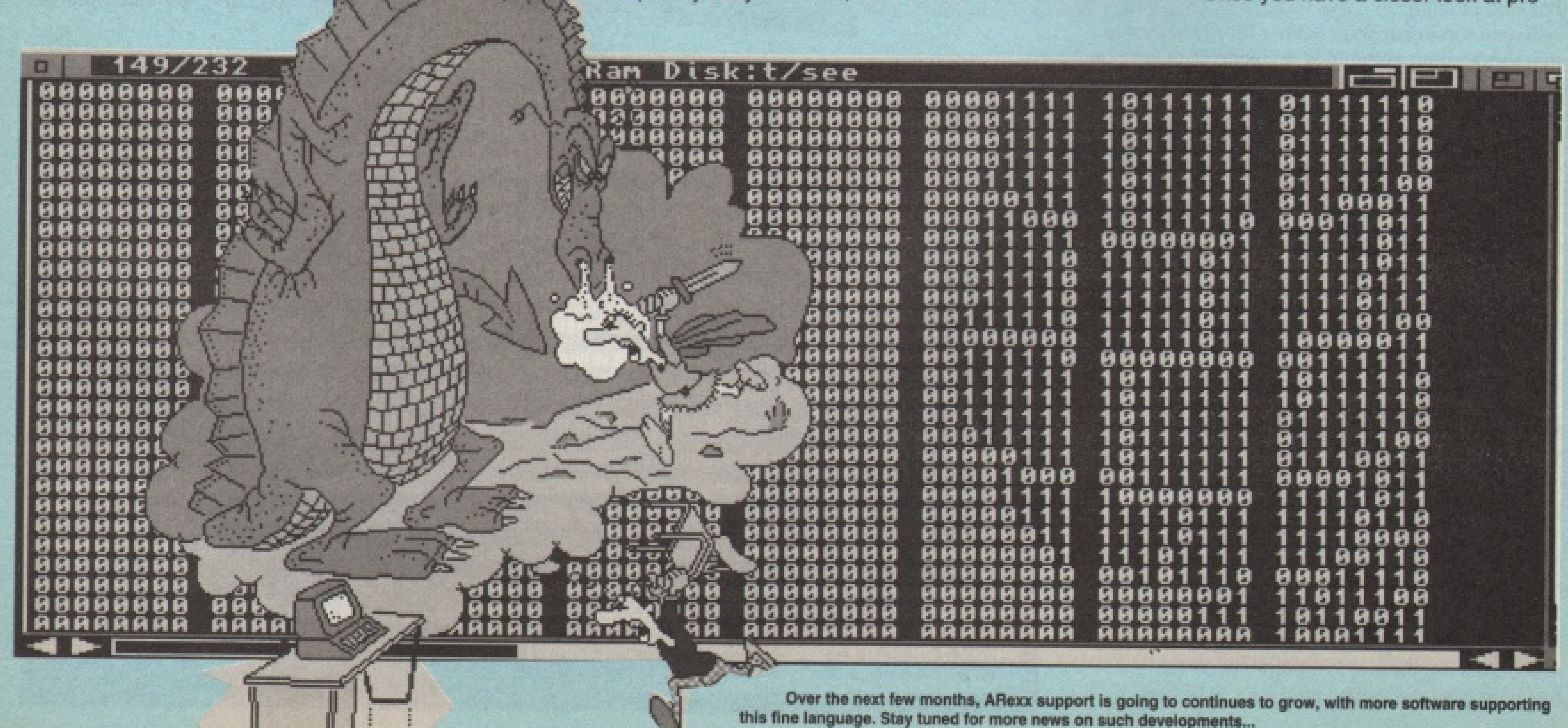
MULTI-TASKING

Consider a computer that does not multi-task. If we want a program to pause, we can create a little loop which goes round and round doing nothing in particular for as long as we need. This method was popular on the first home micros. Of course, the processor is kept very busy going around doing nothing; but since there is nothing else competing for its attention, it does not really matter. Clearly this is unacceptable when multi-tasking. Any loop like the one described above would 'steal' time from other programs running, and degrade the machine's performance. To get around this problem, multi-tasking Operating Systems have ways of putting a task to 'sleep', so that it takes up minimal resources whilst inactive. Then, upon receiving a suitable signal, the task can recommence (of course, even this type of checking involves some kind of a loop, but as it is part of the Operating System, it is many, many times faster than any user program).

Another way of looking at this, is that there is a central program which handles all the tasks and coordinates all the necessary signals between them. On the Amiga this program is known as the Exec. The signals that are passed around and the bits of code that deal with them are known as messages and ports. Obviously this is a very broad generalisation, and there is much more to it in reality. The messages sent have a standard format, and extra information can be tagged on to them. Ports, too, have a standard format, and can be customised. ARexx takes advantage of this to implement its own custom port and message specification, which allows all programs with ARexx interfaces to communicate with each other when running on the machine (see the first article for more details).

A GUIDE TO THE GOOD HOST (Commands And Functions)

Every ARexx-compatible program has at least one ARexx port, known as the host port, or host address. Once you have a closer look at pro-



Over the next few months, ARexx support is going to continues to grow, with more software supporting this fine language. Stay tuned for more news on such developments...

grams that support ARexx, you will notice that there seem to be two different kinds of hosts – command hosts and function hosts.

However, there is in fact only one type of ARexx port. Depending on how it handles ARexx messages, an ARexx interface is said to be either a command host or a function host. This is a question of programming style and functionality; there is no restriction on an ARexx port, and there's no reason why it should not act as both a function and a command host, although this is not common.

To illustrate the differences between these two approaches, imagine we have two applications with ARexx interfaces, both doing the same job – for instance, setting your printer codes, and returning the old setting as the result. We'll call the function host port 'F_HOST' and it will use the function SETPRINTER(); let's call the command host port 'C_HOST' and assume it uses the command SETPRINTER. Both versions accept either 'NLQ' or 'DRAFT' as arguments, and also return either 'NLQ' or 'DRAFT' as the result. Here are the differences between the two approaches:

Command Hosts – In order to send a command to a port, the port must be specified using the ADDRESS instruction. If we want to get a result from the command we must also specify the RESULTS option. So the code in our program to make use of the command host would be: OPTIONS RESULTS ADDRESS C_HOST 'SETPRINTER NLQ' oldcode = RESULT

Function Hosts – Function hosts are much simpler all round. All you have to do is call the function oldcode = SETPRINTER(NLQ) You do not have to specify a port, since function hosts attach themselves automatically to ARexx when first run. To all intents and purposes, the functions of a function host are extensions of the ARexx language itself, just like custom ARexx libraries.

As you can see, function hosts are more flexible, and can be used to implement complete extension languages to ARexx. For instance, a graphics package can have functions like DrawCircle(), FillArea(), etc., and these can be used as if they were actual ARexx functions. Each function can have up to fifteen arguments, whereas commands can only have one argument string. Function hosts also allow results to be returned more neatly. One possible problem with function hosts, is that one day you may come across a function name clash. Command hosts, on the other hand, are quite adequate for simple jobs, and in some cases preferable. To date, most packages with ARexx support have had them implemented as command hosts.

As ARexx becomes increasingly popular, many different custom ARexx-based languages are bound to appear. Since they all work the same way, you only have to learn ARexx once in order to use any of them. All that changes are the available functions! In effect, ARexx implements a scripting language standard.

ARexx seems to be establishing itself extremely well in the video/graphics arena, where task automation abilities are particularly useful. Three major packages to appear recently all have ARexx support of some sort, as does the mighty *Video Toaster*. The well-received *AVideo* in particular, uses an ARexx interface, as described above, to implement a custom language, 'Opera', for video production. Since ARexx is so easy to learn, it makes a good vehicle for users who are not too technically-minded, and yet want to achieve impressive effects easily with their software.

GETTING THE MESSAGE

Learning to use the ARexx ports from within ARexx is not too difficult. The rexxsupportlib.library provides some functions to allow easy reading of the ports. You can see these listed more fully in the section on the function descriptions.

Basically, there are a few things to remember. When you start waiting for a message, your program goes to 'sleep', lightening the load on the system. Once it receives a message, it 'wakes up'. It then places a (substantial) extra load on the system until you 'reply' to the message. Therefore it is very important to reply as quickly as possible, even if the message you received was not directly relevant to you. 'Unanswered' messages, known as 'busy-waiting' loops, are one of the worst programming mistakes you can make on a multitasking computer! The general idea is to copy the message received into a variable for future examination – then reply immediately to the message. Once you have done so you are free to examine your message at leisure. Note that you must copy the message before replying, otherwise it is lost.

This method of handling messages is standard on the Amiga, and applies to all Amiga messages, not just ARexx ones! For instance, if you were programming in a language such as C, you would handle Intuition IDCMP messages (mouse-clicks etc) in the same way too; in fact any program that is composed of more than one task uses ports and messages to communicate between tasks. In this respect ARexx – because of its relative simplicity – can be a very good introduction to the principles involved.

Listing 1 gives a simple example of how to go about this. It uses functions from the rexxsupportlib.library, so you must remember to add it to your library list, by typing the line: rxlib rexxsupportlib.library 0 -30 0 at your Shell, or including it in your startup-sequence. First we open ➢

THE BUILT IN AREXX MEMORY HANDLING FUNCTIONS

GETSPACE(length) – reserves a memory block of size 'length', and returns the 4-byte string of its starting address. This function is under ARexx control, and any memory reserved by it will be freed when the program exits.

FREESPACE(address,length) – this is not really necessary, since the system frees memory allocated with GETSPACE() automatically, but it can be useful for deallocating very large blocks of memory no longer in use. The function should return either 0 or 1, depending on its success, but currently there seems to be a bug on some systems.

EXPORT(address,var,[len],[pad]) – this copies the contents of 'var' to the specified address in memory, which must be given as a 4-byte string. The optional arguments 'len' and 'pad' work in the same way as we have already described in the previous issue; 'len' specifies how many characters of "var" should be copied, and 'pad' specifies how the remainder should be filled. NB. When writing to memory, if you exceed the allocated bounds, the system will probably crash.

IMPORT(address,[len]) – this returns the value at the address (allocated by GETSPACE()).

STORAGE(address,var,[len],[pad]) – works like export, except that it returns the old contents of the address. If used with no arguments, it will yield the available memory.

OTHER MINOR FUNCTIONS

STRINGS:

COMPRESS(s,[chars]) – without the optional argument, this removes all blanks from the string 's'. If the optional argument is present, then it removes all the characters in 'chars' from 's'.

SPACE(s,number,[pad]) – this function is used with sentence-like strings and places "number" blanks between each word. 'Pad' may be used as an option instead of blanks.

SUBWORD(s,number,[len]) – this function is also used with sentence-like strings. The value it returns is the word in the sentence corresponding to 'number'. 'len' words, starting at 'number', will be returned if this option is specified.

VERIFY(chars,s,['m']) – this function takes the characters in 'chars' and checks that they are all in 's'. If they all are, it returns 0; otherwise it returns the position number of the first character in 'chars' which is not in 's'. If the 'm' keyword is supplied, the function does the exact opposite, returning the position keyword of the first character in 'chars' which is in 's'.

XRANGE([a],[b]) – the acceptable arguments are 0 to F. The return string starts at 'a' and ends at 'b', with all the intermediate values. For example, XRANGE(8,C) gives '89ABC'. If 'a' and/or 'b' are omitted, the string is returned in byte form, and the omitted options default to '00'x and 'ff'x respectively. For example, XRANGE(,8) returns "'0102030405060708'x".

FILES EOF(filehandle) – checks the specified logical filename – obtained by OPEN(), and returns 1 if the end of the file has been reached, otherwise 0.

SEEK(filehandle,offset,[opt]) – is used to move about in an opened file. The returned value is the position in the file after the offset has been added to the current position marker. B, E, and C are valid options and move to the beginning, end, or current position, respectively.

GENERAL: HASH(string) – returns the hash value of the string as a decimal number.

ERRORTEXT(number) – this explains the ARexx error message associated with 'number'.

AREXX

a port that we can listen to. Any ports opened in this way will be closed automatically when your program exits, though it is probably a good practise to close them yourself. The loop then takes care of the rest.

Listing 1

```
/* — ARexx message loop — */
/* First open a port */ port =
openport("HOST_PORT") quitFlag = 0 do
forever until quitFlag = 1 /* "Sleep" until
we get a message" at HOST_PORT */
res = waitpkt(HOST_PORT) /* Message
arrived - get it! */
pkt = getpkt(HOST_PORT) /* Null message
- go back to start of loop */
if pkt = null() then iterate /* Right, get
the message... */
name = getarg( pkt ) /* Reply as soon as
possible; avoid hogging CPU time */
res = reply(pkt,0) /* the code to process
our message goes here */ /* For exam-
ple:- */
say name if name = "BYE" then quitFlag
=1
end call closeport("HOST_PORT")
exit
```

Test this little script by running it, and then sending commands to it. The easiest way is to have a second Shell open, and to type the following into it:

rx "address 'HOST_PORT' command

The commands will appear at the first Shell; the command "BYE" will make your script quit.

As you can see the above program is extremely simple – all it does is perform an action when a suitable command (message) is received. It does not return a result to its caller.

PROGRAMMERS (ADDING AREXX INTERFACES TO YOUR PROGRAMS)

In order to return results to commands, or functions for that matter, the appropriate fields in an ARexx message must be set. Since ARexx is implemented as a shared library, the functions to do this are easily available if you are programming in C, Basic or Assembler. The ROM kernel manual gives full details, and a lot of good sample code is available on the PD scene. For those who don't want to get their hands too dirty, a number of shared libraries have appeared that make the adding of ARexx interfaces almost trivial – so in the future there should be hardly any major Amiga programs without ARexx interfaces. All those of us who have had to perform boring repetitive work, involving endless mouse clicks and menu choices, will greatly appreciate it!

Here's the basis of the structure of an ARexx message:

1. Standard Amiga Message Structure – 20 bytes
2. ARexx message information block:-
3. Pointer to the global task block – 4 bytes
4. Pointer to the ARexx library base – 4 bytes
5. The Action message – was it a – 4 bytes – special instruction, a command or a function?
6. The primary result (return) code – 4 bytes – If everything is OK, rc 0
7. The secondary result code – explains – 4 bytes – what went wrong if rc is not 0.
8. Space for pointers to 16 strings – 64 bytes. The first one ARG(0) is the name of the command/function, and there can be up to 15 arguments for a function. Each string may be up to 64k.
9. PassPort address – unwanted messages – 4 bytes – can be forwarded to it.
10. Pointer to the name of the Host port – 4 bytes.
11. Pointer to optional extension – 4 bytes – name (if it is not .rexx).
12. The input stream – 4 bytes.
13. The output stream – 4 bytes – reserved for future expansion – 4 bytes.

Total 128 bytes

2 MEMORY MATTERS

ARexx handles all data internally as strings of characters. While this can make life very easy for the user, it incurs a hefty overhead in terms of space and time. Once we start to look at larger ARexx programs, it becomes very important to use memory efficiently. To illustrate this we'll take a look at a hypothetical case – the need to store 65000 one byte characters.

THE DOWN SIDE

Well, first of all you might think of storing each character in a different variable, perhaps even in one of those nice compound symbols, so you could call them something like myvar.1, myvar.2, ...myvar.65000, etc. However, before you think of doing such a thing, don't bother!

The data handling simplicity is paid for by a very expensive ratio, where it can take anything up to 64 bytes to store one byte. Do your sums and you will see that your 1Mb of memory effectively becomes reduced to 16 kilobytes! Hardly the most desirable state of affairs, and this is before we even take into account the speed penalty of all those string format conversions....

Of course, the above example is the worst case – it corresponds to each variable storing a single-byte character. On the other hand, 100 variables each containing a 10-byte string take about 10 kilobytes to store, giving a more acceptable ratio of 1:10. Ten variables of 100 bytes each are stored in about 3300 bytes (1:3), so there is a very important lesson here: Longer strings are stored more efficiently by ARexx. Avoid the generation of too many short variables in your string processing loops.

'Right,' you might then say, 'I'll build up a long string by joining up all these characters repeatedly into one variable.' All fine and dandy if you are dealing with small strings and few iterations, but what happens if you have to string up, say, 65000 characters individually?

To put this effect to the test, we will run the little script shown below in Listing 2 :

Listing 2

```
/* string_em_up.rexx */ /* How fast is
repeated concatenation? */ string = "
char ='_' t0=time(s) time(r) do i = 1 to
1000 /* The following line does the work
*/ string = string char if i // 200 = 0 then
do
say i time(r) end
end say "Total time :-" time(s) - t0 exit
```

When you run this script you will notice that, as the string gets longer, each succesive concatenation takes a bit longer too. This means that the amount of time taken is growing exponentially with the number of iterations! On an unaccelerated Amiga, you should find that every 200 iterations, the time taken to complete them increases by roughly 0.4 seconds. The whole operation takes about 17 seconds, which is not exactly brilliant when joining up 1000 characters.

Now, let's see if my calculations are correct: the total time taken should be just over (dx/2)*(n^2) as the number of iterations gets bigger, where 'dx' is the time increase and 'n' is the number of steps. So, in this simple case, 65000 iterations will take about 21000 seconds – i.e. about 5-6 hours. Hmmm, better rethink this one. Obviously there are some ways NOT to go about things with ARexx.

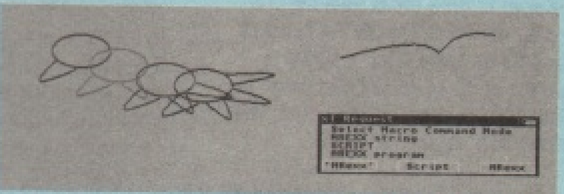
THE UP SIDE

Having read this far, you might smirk and permanently shelve any plans to use ARexx seriously. However, before you give up in horror, you should also know that ARexx does allow for fast handling of data. It is possible to write programs that store very long strings efficiently, and that process them rapidly. As you probably guessed, this is achieved by allowing direct writing of data to blocks of memory.

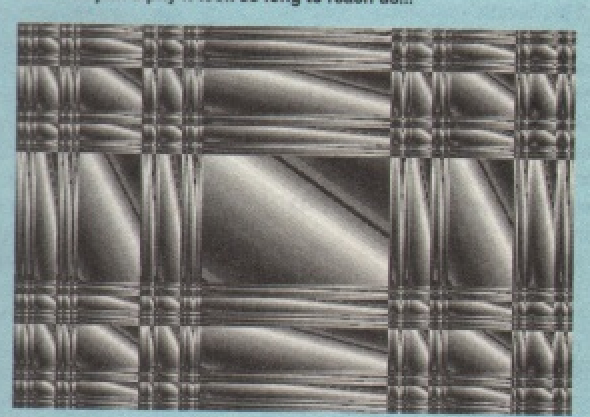
THE STRONG POINTS

Since it is an interpreted language, ARexx is slow. But when used properly it can perform many tasks with more than satisfactory speed. In addition, there are operations that ARexx is specifically designed to perform extremely fast – prime examples of this are the parsing and searching of strings. Even the most complex pattern search can be done on a 64k string in approximately one second (on an unaccelerated Amiga) – that's pretty good going in anyone's computer language.

Furthermore, these searches require almost no coding at all, since they are taken care of by the existing simple ARexx instructions. To get the



The ability to create easy-to-use scripts is the key to ARexx's success. It's just a pity it took so long to reach us...



Below: Shown here is a diagram of how an Arexx script is structured. Because the pattern is so neat and orderly, extra functions can be inserted where necessary to add extra functions. This makes it far more user-friendly than other languages.

Diag. 1 – The structure of an ARexx message:

Standard Amiga Message Structure	– 20 bytes
ARexx message information block :-	
pointer to the global task block	– 4 bytes
pointer to the ARexx library base	– 4 bytes
The Action message – was it a special instruction, a command or a function?	– 4 bytes
The primary result (return) code If everything is OK then rc = 0	– 4 bytes
The secondary result code – explains what went wrong if rc is not = 0	– 4 bytes
Space for pointers to 16 strings The first one ARG(0) is the name of the command/function, and there can be up to 15 arguments for a function. Each string may be up to 64k	– 64 bytes
PassPort address – unwanted messages can be forwarded to it	– 4 bytes
pointer to the name of the Host port	– 4 bytes
pointer to optional extension name (if it is not .rexx)	– 4 bytes
the input stream	– 4 bytes
the output stream	– 4 bytes
reserved for future expansion	– 4 bytes

Total 128 bytes

best out of ARexx, use its easy parsing and string handling to do the 'dirty work' for you, but when processing large blocks of data, handle it directly in memory, rather than as string variables.

There are two general cases when writing data directly to memory can be useful: when we have to produce very long strings or blocks of data, and the usual method of concatenation is too slow, as in the example above. Or when we have to produce data corresponding to Operating System structures, which we may want to use with various functions. Examples of this may be bitmaps, requesters, etc. Portions of these structures may then be altered by writing directly to the relevant fields.

ARexx allows two ways of doing this. In the first case, by using built-in functions, ARexx reserves and keeps track of the blocks of memory that are written to, and it frees them automatically when your program exits. These functions are listed in the separate section. In the second case, calls can be made to library memory allocation functions like the one found in rexxsupportlib.library, or in other third party libraries. In this case, it is the programmer's responsibility to free these locations before exiting. If this is not done, they will persist and eat up memory. However this may be useful if done deliberately. The addresses of such blocks may be stored in global ARexx structures like clips, for later use by another program.

In either case, when memory is written to directly, extreme care must be taken, since writing outside allocated areas can easily wipe important system data and crash the machine.

BIGGER STRINGS

To give you a taste of all this, the example in Listing 3 does the same job as Listing 2. However it writes a string of 10000 characters, (in units of 4 bytes), in about 30 seconds – the equivalent form of Listing 2 takes about two minutes.

If, instead of EXPORT(), you use the POKE() function from rx_intui.library (supplied with the last issue) the time comes down to approx. 20 seconds. Further, the time taken increases proportionately to the length and not exponentially. A 64k string could therefore be written in the time it takes ARexx to do 64k iterations. In our example, we are talking about a couple of minutes. (Listing 2 would take a couple of hours.)

Listing 3

```
/* StringtoMemory.rexx */
 BlockAddress = getspace(10000)
t0=time(s)  do i = 0 to 9996 by 4
add = '00'xlld2c(c2d(blockaddress)+i)
call export(add,'____')
end  say "Total time :-" time(s) - t0
string = import(BlockAddress,10000)
exit
```

The weird line with all the conversions is due to the fact that the argument to EXPORT() must be a 4-byte string, while D2C() returns 3-byte strings for addresses less than 16 Megabytes. You would have to add extra code if D2C() returned anything other than a 3-byte string. These conversions are quite time-consuming, and less than elegant. It could certainly benefit from that compiler... But perhaps there is a better way to do this, which I have missed – it is certainly needed. On my system I have written a small function host just to do the job of handling address strings.

INTERPRETING STRINGS

We have now almost come to the end of our introductory overview. There is still one area of ARexx which we have not dealt with, and that is its ability to interpret strings as if they were actual ARexx clauses. This is a very important ability, as it allows programs to add new code to themselves while they are running. Powerful problem-solving techniques can be developed with this approach, usually only available in languages for Artificial Intelligence applications, like those of the LISP family.

However, the subject is quite advanced and reaches into areas including self-modifying programs. We may look at some of its practical uses another time. In the meantime Listing 4 gives a small idea of its operation. Essentially, any ARexx program passed to the INTERPRET instruction as a string will be executed exactly like a normal line of Arexx code. You can use the example as a basis for your own experimentation.

Listing 4

```
/* Interpreted clauses */ x = 5 string = " x
= x*x/2 ; say x" interpret string
```

This issue's coverdisk contains an example ARexx script, which illustrates most of what we have said here, particularly with regard to ports and function hosts. It is based around the freely distributable and popular rexxarplib.library. Even though this library has minor incompatibilities with Workbench 2.0, I chose it because is provides an excellent illustration of a variety of techniques.

Enjoy your experimenting with ARexx!

NEXT MONTH

With Arexx pretty much explained, the September edition of CU Amiga will feature the first in a series of BASIC tutorials. If you have struggled with BASIC in the past, this section will prove invaluable and will offer short cuts, tips and cheats to aid your techniques. So, if you want to get in the know, be here next month.

THE BUILT IN AREXX MEMORY HANDLING FUNCTIONS

TIME(option) – the following options are available:

H	hours since midnight
M	minutes since midnight
S	seconds since midnight
R	resets the counter and returns the time elapsed since a reset
E	time elapsed since reset

REXXSUPPORTLIB FUNCTIONS

This is a custom ARexx library which is supplied as part of the distribution. Like all custom libraries it must be added to the ARexx library list before use. This can be done from the startup-sequence with the rxlib command, or from within ARexx, by using the AD DLIB() function.

MEMORY:

ALLOCMEM(size,[flag]) – uses the exec.library call to allocate memory, and returns the address of the memory block. The optional flag is an exec style flag to specify the type of memory, i.e.: '0000 0001'x - PUBLIC, '0000 0002'x - CHIP, '0002 0000'x - FAST, et c. These values can be ORed for more than one attribute.

FREEMEM(address,length) – used to deallocate memory allocated by Exec. Note: This cannot free memory reserved by GETSPACE().

PORTS:

OPENPORT(Portname) – opens an ARexx port with the specified name.

CLOSEPORT(Portname) – closes the specified ARexx port. Of course, it can only close ports opened by OPENPORT().

WAITPKT(Portname) – waits at the specified port until a message is received.

GETPKT(Portname) – returns the address of the the first message packet queued at the specified port, or '0000 0000'x if there are no messages.

GETARG(pack,[argfield]) – is used to extract the data from the message packet, before it is replied to. If no second argument is given, the value returned is the command or function name. Any number from 1-15 can be used to extract any arguments, if the packet was a function call.

REPLY(pack, returncode) – replies to the given message, and sets a return code for the reply (0 = OK). Messages must be replied to as quickly as possible, after the arguments have been extracted.

GENERAL:

SHOWLIST(optcode,[name]) – Prints out the system list specified by the optcode. This may be D(evices), L(ibraries), P(orts), R(eady tasks) or W(aiting tasks). If a 'name' is given the list is checked to see if it is contained, and returns 1 if it is, otherwise 0.

SHOWDIR(dir,[opt]) – returns the contents of a directory as a string. Valid options are 'All', 'Files' (files only) and 'Dir' (subdirectories only).

STATEF() – returns a string containing information about a file, including the size and protection flags.

FORBID() – forbids multi-tasking on the system. All activities other than the program will temporarily stop. This includes mouse movement etc.

PERMIT() – permits multitasking again, after a call to FORBID().

NULL() – returns a 4-byte null string, i.e. '0000 0000'x.

REXXMATHLIB.LIBRARY

This is a custom ARexx library library that supplies ARexx versions of the Amiga math floating point libraries. It is not part of the ARexx distribution, but it is mentioned here since it is more than likely that any ARexx user will need functions like LOG(), SIN () and POW(). rexxmathlib.library is freely distributable, and can be found on FredFish disk number 227.

improve your sam

There's a lot more to sampling than pressing play and clicking a mouse button. Tony Horgan shows us how to transform puny effects into thunderous window shakers.

THE OLD RATES

On the surface, the process of sampling a sound seems pretty simple. What could possibly go wrong? Well, quite a lot actually. I'm constantly disappointed by PD music and sample disks which are spoilt by unnecessarily bad sound quality. Once you know how, persuading the Amiga to play high-quality samples is a breeze. This month I hope to enlighten you with some tricks and techniques I've amassed over the years.

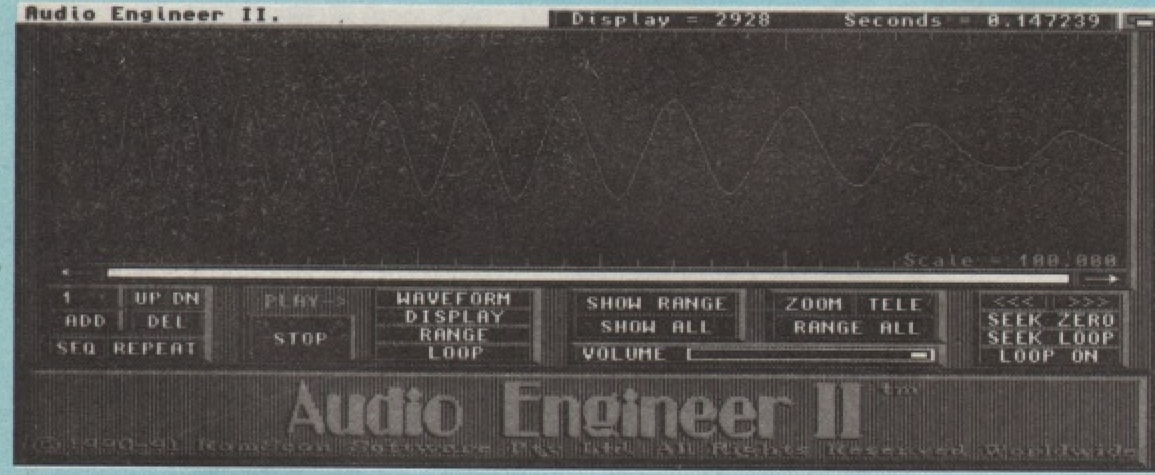
The first thing to decide before sampling, is what sample rate you're going to use. As you know, higher rates offer better reproductions, but use more memory. There's no perfect rate for sampling, though, as different sounds create different demands. Here's a guide to the sample rates you'll need for various types of sound:

BREAK BEATS – I find a rate of 16726hz (that's a period of 214) gives the best trade-off between memory use and fidelity. Sampling at higher rates gives marginally superior results, which is fine if you've got the memory to spare. I wouldn't like to use anything below about 13000hz, as the top end starts to get scratchy.

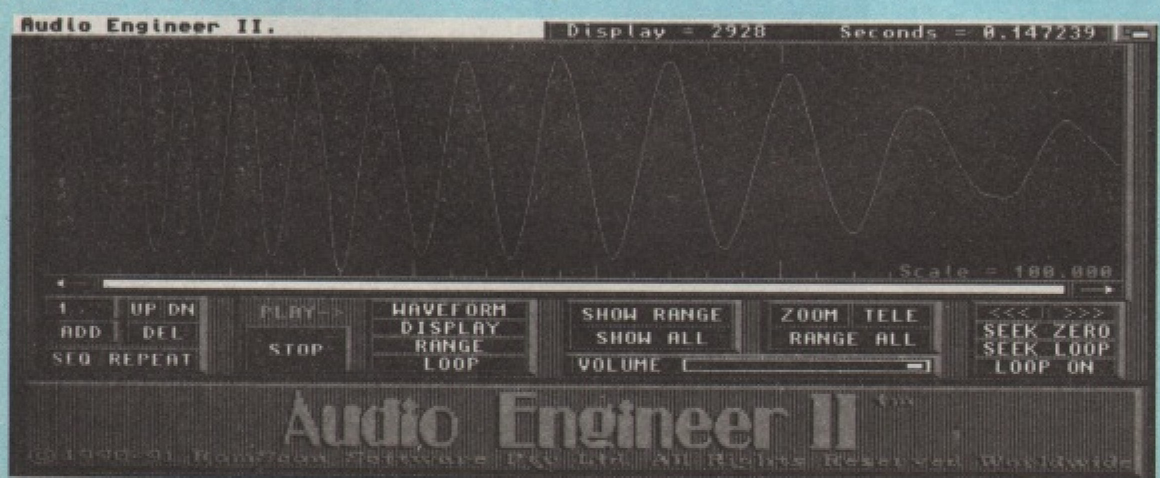
VOCALS – For crisp clear vocals, 16726hz is really the bottom rate you could use for decent results. At anything below that, S and T sounds develop a lisp. If, however, you're sampling speech from a film, radio or another source where the original quality isn't too high, it's wise to use a lower rate (anything down to about 8363hz).

BASS – There's a myth that basses sound better sampled at low rates. Like anything else, basses reproduce better at high sample rates. Note that if you're sampling a single bass note, in order to recreate a whole bassline, it's best to sample the lowest note in the pattern. That way, when you replay the bassline, you won't have to play the bass sample any lower than its original pitch, thus avoiding the otherwise inevitable ringing overtone.

DRUMS – If your source sounds are clean and bright, it's usually worth your while using a high rate to grab them in all their glory. Most sequencers and trackers can play sounds up to 22000hz, so why not treat yourself? As drum sounds are generally quite short, you still won't use much memory, but you'll hear the benefit in the top end of your high hats and snares.



A low input volume will reduce you to the equivalent of 4-bit sampling.



This is the perfect level, using the maximum resolution of the sampler.

SIGNAL TO NOISE RATIO

The most common cause of dodgy samples is a low signal-to-noise ratio. In other words, the sample is too quiet. The Amiga deals with 8-bit samples, which means that every slice of a sample can have any value from -127 to +127. If your sample is too quiet, you're not using the full resolution of 8-bit sampling, and the resulting sound will suffer for this.

The solution is to adjust the volume of the incoming sound with the help of an oscilloscope. Any sampler worth its salt will have one, usually under the 'monitor' option. Run the sound through the occiloscope, and tweak the volume until the wave just touches the top and bottom of the box, without turning it up so much that it flattens out at the peaks. Too loud a signal will lead to distortion.

THE EQUALIZER

With sensible use of your graphic equalizer, you can eliminate hum and hiss before the sound reaches the sampler. Remember to turn the treble down when sampling bass sounds, and boost the lower frequencies a little if you like. Do the opposite when sampling cymbals and so on. When sampling whole drum loops, with both low and high frequencies, try boosting both the bass and treble, with the mid-range kept low.

Even having done this, you're still likely to get unwanted noise and a lack of response at high frequencies. This is where your software filtering



comes in handy (remember to save your sample before you do anything to it). When filtering bass sounds, be careful not to destroy the sound's character by muffling the attack. Most other sounds will benefit from a boost in the treble department. If, after boosting, the sample sounds jangly or scratchy, it's probably because the treble has distorted. Try a slightly less severe boost, or if you only have a non-variable boost option, resample with less treble, then boost with the software.

CUT A GROOVE

Sloppy use of your sampler's 'cut' function will not only waste memory, but also lead to unwanted jumps and clicks in your samples. Tight splicing is essential if you're to get a break beat running smoothly. Zoom right in on the first beat of your loop, and cut away anything to the left of it. Then move to the last beat of the bar and dispose of anything after that. If there are any gaps of silence between the sounds, there's almost certainly going to be some background noise in there, too. Highlight the gaps and use the 'clear' function to take out any hiss or hum between the sounds. Better still, cut the sample into a number of pieces, and save them out as separate bits. That way you can get them to run at the tempo of your choice.

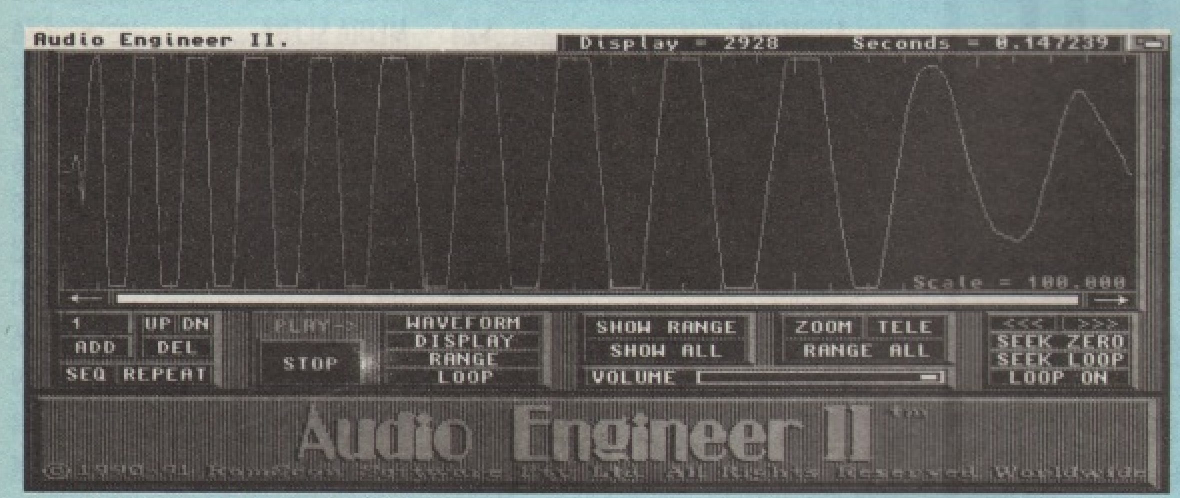
GOING LOOPY

Getting a complex synth sound to loop without a very obvious jump can sometimes seem impossible. Quite often it would be, if it wasn't for a technique I worked out for just such occasions:

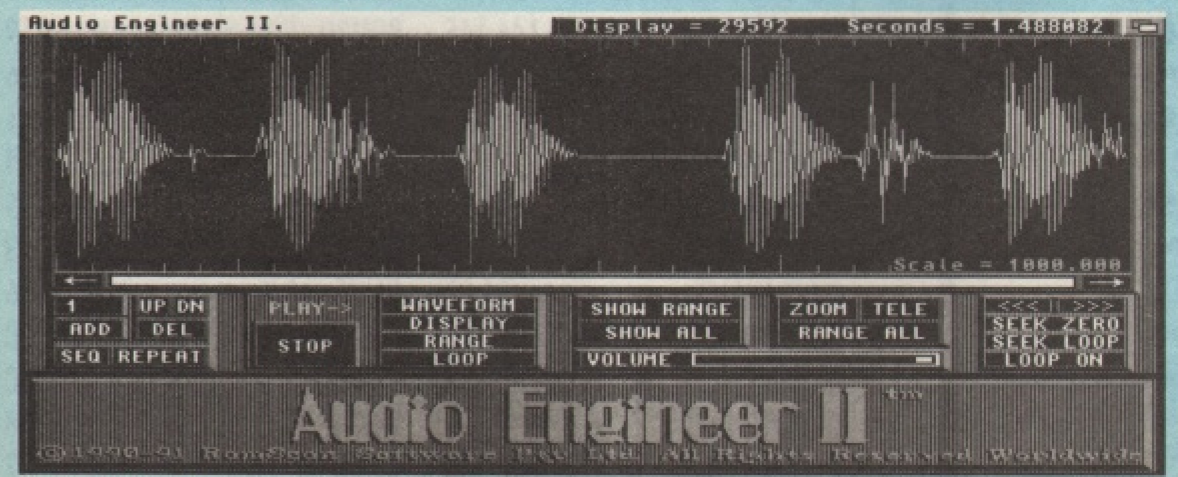
1 Highlight the section of the sample you want to loop
2 Copy the highlighted range into the buffer
3 Reverse the range
4 Mix the section in the copy buffer back onto the reversed range
5 Set up loop points at the start and end points of the range
6 Move the left hand loop point half a wave cycle to the right
7 Increase the volume of the looped section if necessary
8 Play the sample

NEXT MONTH

In our September issue, Tony will reveaw to compose 'proper' music on your Amiga..



Crank it up too much, and the sound distorts.



Clean up your loops by silencing sections of noise.

SEEDY SAMPLES

Arriving just too late for last month's sample CD round-up were these two exciting new dance sample packages.

X-STATIC GOLDMINE

Time And Space (0442 870681) Price £79

TOP RATED

A set of two CDs, the *X-Static Goldmine* really is a stunner. Originally available from The Advanced Media Group, the set is now distributed exclusively by Time And Space, the people responsible for the *Zero G* Datafile CDs. Its 3023 samples are fronted by a collection of 512 breakbeats. All the beats are listed by name and track number, and you even get their tempos in BPMs. Their arrangement on the CD is very neat, with the beats segregated in hiphop, techno, house, rave, and hardcore sections. Not only is the quantity impressive, but the quality is superb – brilliantly funky from start to finish. The rest of the disk is taken up by an extremely comprehensive drum and percussion section (over 1000 samples), which includes multi-samples from just about every beatbox ever made by Roland, and buckets of standard and alternative sounds from all over the place.

The second CD has a more varied mix of material. Some of the 512 vocals open the proceedings, followed by some great bleepy techno bassline loops taken off the Roland TB 303. A very analogue bass synth section is next, which gives way to an extremely useful 'ravers' section. Here, you'll find loads of stacato piano and synth chords, stabs and bleeps, all begging to be played back on a catchy little riff.

After some sci-fi sound fx, there's a clever section titled Vocoder Loops. These are beats and basslines put through a vocoder (you know the one: that old 70s voice effect used on ELO's Mr Blue Sky – oh, ask your Dad...). The results are weird, and surprisingly effective. After a minimal string and horn collection, there's a series of atmospheric synth sounds and background drones. A generous helping of computer speech is rounded off by a few vocoded speech samples. Yet more speech is followed by tons of sound fx taken from synths and the real world.

The number of samples on the CDs is impressive, but the actual samples themselves are awesome! Basefactory, the people responsible for compiling the set, have put a lot of thought and imagination into this, and it's paid off. If you can't decide between a Datafile or *X-Static Goldmine*, Time And Space are doing an offer on both for £109. Get saving.

DANGER 1

The Dangerous CD Company (Tel: 081 368 8271) Price £49.95

The first of a proposed series of four, *Danger 1* is a single CD, once again geared towards producers of dance music. No less than 330 break beats fill the first section. They're all listed with BPMs, and given logical names, such as 'Yeah Loop', 'Ambient Loop' or 'Slow Conga Loop'. When you're in mid flow, and you suddenly think 'Oh, I've got a good beat on that *Danger 1* CD that would work well here', the descriptive names make them a lot easier to find. Sample a few of these pounding beats, and your dance floor smash is halfway there. Drums and percussion continue to dominate the rest of the CD. After a short selection of fills and rolls, you get six multi-sampled drum kits, including the 808, 909, Korg M1 and Alesis HR16. A total of 32 bass drums, 44 snares, 46 high hats and over 100 miscellaneous percussion samples finish off the drums section. The rest of the CD is filled with 67 sound fx, 60 stabs, 22 basses and 12 string samples.

Although it's not quite the complete hit-record package, devoid of any vocal samples, *Danger 1* scores very highly on its massive breakbeat and percussion selection. Not the best all-rounder, but as a drum and percussion CD, it's certainly one of the best around.

DIGITALLY MASTERED SAMPLES



IFF SOUND SAMPLE LIBRARIES

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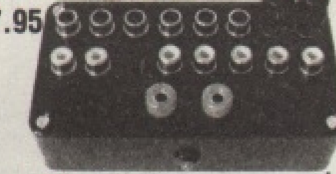
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002 **INDIAN INST**	: Sitars, Bansuri, Chants etc. (19)	015 **ANALOG BASS**	: Oberheim, Roland,Korg, etc.(22)
003 **INDIAN PERC**	: Tablas, Bayas, Rhythm Loops etc. (35)	016 **DIGITAL BASS**	: Yamaha DX, Roland, Korg, etc. (28)
004 **ARABIC**	: Ud, Saz, Bendir, Rhythm Loops etc. (37)	017 **BRASS**	: Sections, Saxes, Trumpets, etc. (24)
005 **FAR EAST**	: Tibetan Bells, Yangqin, Koto etc. (31)	018 **SYNTH BRASS**	: Analog, Digital &L.A, etc. (18)
006 **EUROPEAN**	: Balalaika, Choirs, Bodhran etc. (34)	019 **PIANOS**	: Octave Splits, with strings,FX (16)
007 **OCEANIA**	: Didjeridu, Chants, Slit Drum etc. (23)	020 **STRINGS**	: Cello, Orch. Hits, Sections, etc. (21)
008 **AMERICAS**	: Kena, Berimbau, PanPipes etc. (30)	021 **SYNTH STRINGS**	: Analog & Digital (19)
009 **FX PERC.**	: Power Toms,Snares & Bass,Scratch & Rap. (88)	022 **CHOIRS**	: Mixed choirs, with bells & synth (16)
010 **DRUM KIT**	: Bass&Snares,Hi-Hats,Cymbals&Toms (63)	023 **ORGANS**	: Church & Electric (17)
011 **ANALOG PERC.**	: TR-808, CR-78, Loops etc. (64)	024 **BELLS**	: Real & Synth, with Choir & Strings (20)
012 **LATIN PERC.**	: Timbales, Congas, Cabasas, Cowbells etc. (107)	025 **SOUND FX**	: Action Sounds, Explosions, Gunshots, etc. (30)
013 **GUITARS**	: Acoustic, Electric & Distorted etc. (41)		

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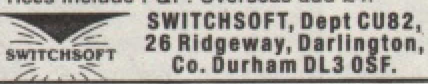
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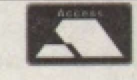
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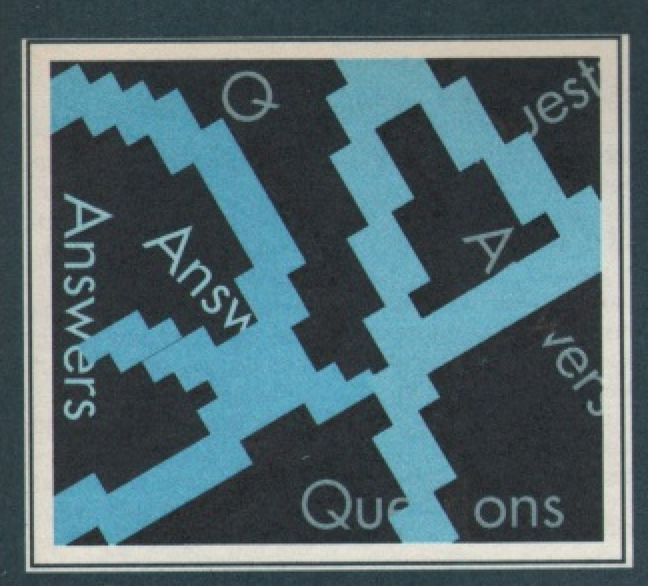
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Mat Broomfield trounces your technical troubles and puts paid to printer problems.

FLASHING CAPS LOCK

When I turn on my Amiga and insert a disk, it appears to load as per normal, but then the Caps Lock light starts flashing, and the computer automatically resets itself. Could it have anything to do with the 2Mb expansion I recently installed?

Ben Ritchie, London

As mentioned previously, a flashing Caps Lock key is always symptomatic of a problem which needs to be fixed by a Commodore authorised service engineer. In fact, you may have noticed that the light flashes in a particular sequence. The way in which the light flashes can help you to diagnose the exact nature of your problem. If it flashes continuously with no apparent pattern, or the flashes appear to arrive in pairs, it indicates that the keyboard processor is faulty. If the flashes occur three at a time, one of the main circuit board chips (IC 74LS123) is at error.

A QUESTION OF ACCELERATION

I have an A500 Plus with 2Mb of Chip RAM and a second disk drive. I'm intending to buy an accelerator and a 52Mb GVP series 2 hard drive (with 2Mb of fast RAM on-board).

I've read in your magazine that this drive is 'notoriously unfriendly to third party accelerators installed on the motherboard'. Could you please tell me if the Microbotics VXL30 25Mhz EC with a 68881/2 co-processor is compatible with it, and how compatible is the drive in general?

Would I be better to buy a Roctec hard drive rather than the GVP? I intend to use it for 'serious' applications such as word processing, DTP, rendering, *DPaint III* and *IV*, as well as the occasional flight sim.

Could you also please tell me the difference between a 68881 and 68882? I'm pretty sure that the latter is faster, but by how much? Is it enough to justify the higher price tag? Am I right in thinking that the Microbotics accelerator would go in the accelerator slot at the side of the A500? Would the GVP/Roctec interfere with this? You also mention that future GVPs will be available with accelerators inside. Could you please give me more details?

David McGuire, Abronhill, Cumbernauld.

Questions, questions! As there is only one main UK distributor for GVP products, I spoke to Silica Systems about your queries and the answers I received were extremely interesting.

On the subject of compatibility, they say that any accelerators which install directly to the motherboard of an A500 are not recommended upgrades, and therefore contravene the Commodore guidelines. Although they could give no advice about GVP compatibility, but they did say that they were aware of a few problems. For more details, give them a call on 081 309 1111.

The Roctec drive is very good, and uses the same speedy Quantum mechanism as the GVP, although I hear that the controller is not quite as flexible. It does have a major advantage, because the drive can be turned off, whilst the computer can still be used (unlike the GVP, which whirrs away distractingly, whether it's in use or not).

As for compatibility in general, I use a 105Mb GVP Series 2 with my A500 Plus, and I've never encountered a single software problem as a result. In terms of general hardware, anything that plugs into the serial or parallel ports (sound samplers, digitisers, genlocks, etc), seems to work without trouble. Attaching additional hardware to the expansion port at the side of the computer can be a problem because the drive occupies that space. Provided the additional hardware has a through-port, though, there shouldn't be a problem.

The Microbyte accelerator apparently solders onto the motherboard, so I don't know where that leaves you. If any readers can help at all, please drop me a line.

Regarding the difference between the 68881 and 68882 co-processors, the '82 is certainly a lot faster and has improved data handling, but by how much depends greatly on the operations it is asked to perform. Generally, for the price (a co-processor ain't cheap!), it is better to go for the 68882.

I don't know if the Roctec drive is more compatible with accelerators than GVP's offering, but the new GVP 040 drive features a 68030 EC accelerator for less than the price of many accelerators on their own. Ranging between £699 and £1095, the drives seem to offer an ideal upgrade path, and I personally hope to buy one as soon as the wallet will allow.

CASSETTE CONNECTIONS

I own an A500 Plus and I was wondering whether it's possible to connect a cassette player to it? If so, what do I need to complete the installation?

K.Bradley, Bilston, West Midlands

You haven't said why you want to connect a cassette player, but I'd guess it's for one of two reasons:

1. You want to record or play Amiga sounds through the cassette player.

2. You want to play tapes into the Amiga.

If you simply want to record Amiga music, you can attach a cassette player provided it has input sockets. These may take the form of a microphone socket, phono plugs, or a DIN connector. The latter two options may be labelled 'Line In'. All you'll need is a cable which has two male phono plugs on one end to connect to the Amiga, and whatever type of plug your cassette player accepts on the other end.

If you want to play tapes into the Amiga you will need a sound sampler to interpret the incoming signal. These start at about £25, and range up to around £200. *Technosound Turbo* and *Stereo Master* are both reasonable low cost models. If you're simply sampling from your cassette player, then that's all you'll need. However, if you are hoping to load old Spectrum or C64 games, you'll need an emulator, of which several are available from PD companies.

A NEW LANGUAGE

I am currently on a programming course in Pascal and Cobol and I want to know if I can fix up my Amiga to accommodate the languages and how much it's likely to cost?

Phil Murray, Fenton, Stoke-on-Trent

There is a Public Domain version of Pascal called *PCQ* which apparently compares favourably with implementations on other computers. It's available from Ed Lib Software for £1.50. Contact them at 7 Sampford Brett Lane, Williton, Somerset, TA4 4JT. Tel: 0984 32320

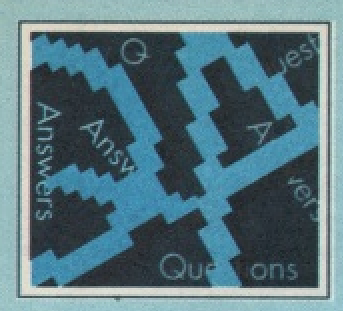
There are also lots of Pascal converters available in the Fred Fish PD collection. These will convert Modula and C programs into Pascal and vice versa. Most PD libraries stock the Fish disks. Strictly PD also have a language disk which contains *Modula 2*, *MVP Forth*, *Logo* and *XLisp* if they're of any interest to you? Contact them at 11 York Place, Brandon Hill, Bristol, BS1 5UT.

I don't know of any versions of Cobol, although I've been looking out for one for a while now. Anyone know of one?

FONT PROBLEMS

Being a recent convert to the Amiga Plus from the Spectrum (titter ye not!), I find myself rather bewildered by the operating system, amongst other things. My main problem is that I can't get the fonts supplied on the Fonts disk to load into a program – ie. Workbench or *DPaint III*.

Could you please explain



how to do this in relatively simple terms?
Chris Foster, Mossley, Lancs

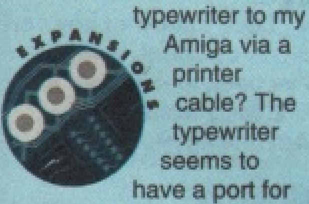
You're talking about two slightly different situations by mentioning both Workbench and *DPaint III*. *DPaint* is the easier program to work with. Simply click the right mouse button on the letter 'A' icon on the main screen to call up the font requester. In the window titled 'Drawer' type in the name of the disk containing the fonts ('AmigaFonts2.0' in your case) followed by a colon and the word 'fonts', then press return and *DPaint* will read from your new fonts disk. The complete title in your case should read (without the speech marks): 'AmigaFonts2.0:Fonts'.

An alternative solution, which will also solve your Workbench problem, is to assign the fonts so that the computer always checks your fonts disk for them.

To do this, open a Shell window and type: 'Assign Fonts: AmigaFonts2.0:Fonts'.

AMIGA TYPEWRITER

Is there anyway of linking my Brother AX-35 (daisy wheel) typewriter to my Amiga via a printer cable? The typewriter seems to have a port for connecting it to a computer and its manual briefly mentions an interface unit (IF-20) for such a connection. Are there any special cables I can buy (or even make myself), and which printer driver should I use?



Mark Sealy, Norbury, London

According to Brother, any standard IBM printer cable will work (in other words a standard Amiga cable). However, the greater problem may be in acquiring a suitable driver. Brother say that you need a standard teletype printer driver (TTI) but I've never heard of such a thing on the Amiga. However, as you're not trying to print graphics, and I presume that the typewriter conforms to ordinary ASCII conventions, you may want to try using the Generic driver from the Workbench preferences.

STRANGE CRASHES

I currently have an Amiga 500 rev 6A board, with a fatter Agnus (8372A) and 1Mb of Chip RAM which I installed myself. I also have an external drive and a Commodore A590 hard drive with 2Mb of RAM, although the actual disk unit has been replaced with an 80Mb Quantum unit.

When I load Workbench from the hard drive, the machine tends to crash intermittently, giving a software error followed by a Guru. This can occur as the machine is booting, or even when it's sitting there doing nothing, but it happens most frequently when I'm trying to play games installed on the drive, particularly *Leisure Suit Larry V* (which works fine on my friend's drive).

If I install *Larry*, it runs perfectly for the first time, but after that it will no longer load. I used to have a number of programs running alongside Workbench, such as *Directory Opus* and various PD utilities, but I have since removed them thinking that they could be clashing with the games software, but the problem still remains. Any suggestions?
W. Jouet, Hayes, Middlesex

The symptoms you describe seem to indicate one of two things: either a virus or a power supply problem.

Because you have a fair amount of kit attached to your computer, the power supply is immediately suspect. This can cause intermittent crashes of the type that you describe, and can be precipitated by one type of program more than another, particularly those which attempt to access the floppy drives. When the computer next crashes, leave it turned off for at least an hour. Does that help? If the answer is yes, and you're not already doing so, I suggest that you try an improved power supply. There are a range which offer 30% more power, but you may prefer to look for something with even more kick to it.

On the subject of viruses, there are a couple which particularly affect hard drives, one of which is called 'Travelling Jack' and could certainly be responsible for destroying your software, although I'm not sure that it would make the computer crash even when you're not using it. As I understand it, this virus works its way around the files of your hard drive adding or deleting parts of them. One way to test this possibility, apart from using a virus killer, is to compare the byte size of the main files on your non-working game, and compare these to the size of the equivalent files on floppy disk. If they're different then you've probably got a problem!

To get the latest selection of virus killers, contact Goldstar Computers for a copy of their *New Superkillers* disk. Write to them at PO Box 2, Tyldesley, Manchester, M29 7BN. Tel: 0942 895320.

START UP SCREEN COLOURS

When I turn my computer on, the screen changes from green to dark grey, etc. I've been told that this is bad. Why? And what does it mean?
Ben Ritchie, London

Someone has been misleading you, Ben. The screen colours which flash briefly when you turn your computer on are good. It's only if one of the colours stay on-screen that it becomes bad.

The colours are used for diagnostic purposes to enable repair people to quickly diagnose many of the more common faults on the computer. Each colour represents a different fault, and this is the order in which the colours appear: Red, Yellow, Green, Blue, Dark Grey, Light Grey. Here's what they mean:

Red - Checksum error. This is used to confirm that all internal ROM chips contain the information they should.

Yellow – Unexpected Exceptions. Sorry, I don't know what this means!

Green – Problem configuring local memory. This is usually caused because the Agnus chip has worked its way loose. If you know what you're doing, you can simply push the chip back into place.

Blue – Problem with the custom IC check. One of the custom chips (Gary, Agnus, Paula, etc) is faulty.

Dark Grey – Remaining hardware OK. This simply confirms that all hardware not covered by one of the earlier checks is working correctly.

Light Grey – Remaining software OK. This checks that all of the ROM routines are OK.

WHICH HAND SCANNER?

I'm in some doubt as to which hand scanner I should buy. I've read that the Golden Image scanner includes the best software. I like the option of saving the pictures in EPS, but does the *Touch Up* software include Optical Character Recognition (OCR)? Do any other hand scanners include OCR? How good is OCR software, can it read typed text reliably?
Wim De Groot, Belgium

There seems to be a flurry of activity on the scanner front at the moment, making it difficult to select the best buy. Although I would agree that the Golden Image scanners have a well-deserved reputation, I found the *Touch Up* software to be a little unstable in that it crashed from time to time with no warning or explanation. As the program is very RAM hungry, I suspect that my allocation of memory was actually responsible.

At the same time, Datel have just released a cut-price colour scanner which looks very exciting, and Alfa Data (an affiliate of Golden Image), have just released an excellent 256 grey scale scanner which also comes with the OCR software.

OCR is manufactured by Migraph, can be purchased to use with most scanners, and will even work with ordinary *DPaint* files. Unfortunately, it's so expensive that it only makes sense to get the software bundled with the Alfa Data scanner.

Apparently, the software has a success rate of about 95% and has been pre-trained to recognise nearly twenty typefaces, and it can learn others. So far as I know, it's the most sophisticated version available for the Amiga, but even an accuracy rate as high as 95% can mean a great deal of correction work if you scan a large document.

PC GAMES ON AMIGA?

I bought my Amiga in August and my cousin bought a PC, since when we've both accumulated a large number of games. Is there any way I can use his games, or transfer them to disks that I can use on my Amiga? Also, what's the difference between an internal drive and a hard drive? What can a hard drive do for me?
Mark Crockett, Hereford

Although I have encountered people who claim to have run some unmodified PC business software on their Amigas (very suspect), it's certainly not possible in the case of games which use the PC's graphics and sound modes.

There are 286 and 386 PC emulators available which will let you turn your Amiga into a PC whenever you like, but whether or not you feel your cousin's games justify spending an extra £100-200 is another matter...

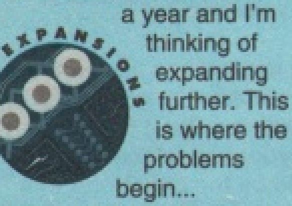
The internal drive loads

data from floppy disks which are removable, generally contain about 880K of data, and load quite slowly. A hard drive can store tens or even thousands of times as much data (depending on which one you buy), and loads information incredibly quickly by comparison. However, the disks aren't removable, and the drives cost hundreds of pounds each.

If you only play games, a hard drive is nice, but difficult to justify. If you use a lot of utilities, hard drives can greatly increase both your productivity and creativity because disk swapping becomes virtually a thing of the past, and everything loads so quickly that you can skip from one program to another without any major interruption.

MIND EXPANSIONS

I've had my A500 with half meg expansion for just over a year and I'm thinking of expanding further. This is where the problems begin...



I noticed that with my expansion turned on, *Battle Chess* plays faster. Not too difficult so far, it all seems fairly simple up to this point. To expand further, I'm confronted by a guy called 'Gary' and his girlfriend 'Fat Agnus' not to mention other females whose names mean nothing to me. Who? Why? What the hell are they?

After reading a recent issue of CU and the letter sent in by Iain Mackenzie, I thought 'Hello, does this mean I have to buy loads of stuff, or is there something simple that plugs directly into the expansion port like the half meg upgrade?'. Don't say read my manual!

I also seem to require some form of speed up chip, but which one? How much is it? Why wasn't it standard on my machine? Do I have to part with more of my hard-earned cash?

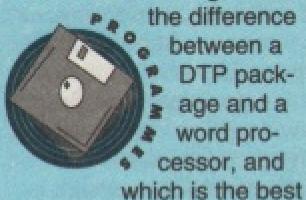
Anthony S. Wilson, Hull

Why should you read your manual? Because that's what it's provided for! As for why your Amiga is not supplied with deluxe components at every point – why is a Volkswagon Beetle not supplied with a Rolls Royce engine? To keep the costs down to a reasonable enough level so that 'ordinary' people can afford it, that's why. Accelerators (speed up chips to you), cost hundreds, even thousands of pounds to buy, and would be completely unnecessary for most users.

On the subject of extra memory installations involving the Gary chip: any installation that takes the total memory beyond 1Mb (on a 1.3 Amiga 500), is considered to be an advanced job, not sanctioned or recommended by Commodore. As soon as you start fiddling around with the custom chips, there's a lot of potential for accidental damage, if you don't take care. Having said that, the job is not particularly difficult... provided you're prepared to read the extremely brief instructions that come with the boards!

DTP VS WP

I've just bought an A500+ and I was wondering what's the difference between a DTP package and a word processor, and which is the best value for money? Also, is a printer driver necessary to print text, and if so how much do they cost?



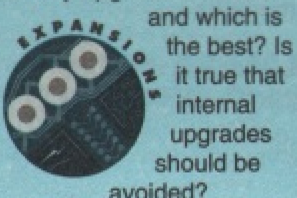
Stevyn Harris, Fishtoft, Lincolnshire

Very good question! In the old days, a desk top publishing package used to be for the design of pages which incorporated text and graphics, and was ideal for professional layouts such as magazines, newsletters, reports, etc. Word processors used to be purely for writing documents, and had little or no graphical pretensions. Nowadays, every word processor thinks it's a DTP package. Packages such as *Wordworth* (one of the best), have very sophisticated graphics and font handling abilities and are quite adequate for many users. However, if I could only have one package, be it WP or DTP, I'd opt for *Professional Page 3.0* (DTP) every time. In terms of value for money, I'd have to say that *Pen Pal* (which includes a database and art program), at £79.95, and *Wordworth* at £129.95 represent the best buys on the WP front.

A printer driver is necessary to print text, but they come free on the Workbench disks that you got with your computer. Of course you must own a printer too...

RAM POWER

What is the most powerful memory upgrade available and which is the best? Is it true that internal upgrades should be avoided?



Michael Dickinson, Atherton, Manchester

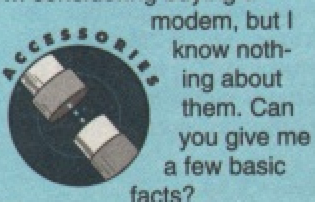
If you're referring to a standard A500, you can add up to 8Mb of additional memory using one of the numerous external upgrades that plugs into the expansion port. Generally, you'll have to buy a board to plug it into, and the SupraRAM seems very popular. Once you have the board which I think costs between £100 and £150, the memory will cost anything from £25 to £50 per meg.

Although internal memory upgrades don't hurt your computer, they do actually invalidate your guarantee, and should perhaps be avoided as long as it's still valid.

As a matter of interest, certain accelerator cards let you add 32Mb or more of 32-bit memory, but unless you specifically need extra speed, these are way too expensive to even consider.

MODEM MOMENTS

I'm considering buying a modem, but I know nothing about them. Can you give me a few basic facts?



Richard J. Green, Dukestown, Gwent

There are only a few important things to consider when selecting a modem:

1. Is it Hayes compatible? Each modem understands a particular instruction set (used to control it). Hayes compatibility – sometimes known as the AT communications set – is the most commonly available, and means that you won't need to learn a whole new set of commands if you upgrade your modem in the future.

2. How fast is it? Obviously the faster it is, the less time you'll have to spend transmitting and receiving data. Modem speeds are indicated by their Baud rate, and commonly range between 2400 and 9600 baud. Many bulletin boards only operate at the lower speeds, but if you have a faster modem it will usually be able to switch down to the speed of the board you're contacting. Different speeds are represented by code numbers somewhere within the modem's title or specifications. V22=2400 Baud, V32=9600 Baud.

3. Does it features on-line compression? If the data you're transmitting is compressed before sending it, transmission times will be reduced. Compression ratings are indicated by the letter MNP and a number from one to five (five is best).

4. Does it have on-line error checking? Because the phone lines are not 100% reliable, data is sometimes lost or altered during transmission. Most modems check the incoming data for such errors, but there is a graduated scale (again called MNP) which determines the level of error correction. An MNP of four is very good.

5. What additional software does it come with? Many companies now include software so that you can use your modem (and a printer) as a fax machine.

6. How much is it? V22 modems start at about £150, whilst V32 machines can cost in the region of £600-800. However, as with most hardware, it's always worth shopping around.

Some good makes to watch out for include Hayes, Pace Linnet, Courier and HST.

PRO PAGE 3 FONTS

I've just bought *Professional Page 3* – primarily because I read that it can now handle *Pagestream* type 1 fonts. The program comes with a font manager that supposedly converts these fonts, but despite having tried to convert hundreds of them, only a couple actually worked. I'm fairly certain that I'm not making a mistake, so what's wrong?

Martin Davies, Harrow

You're not the only one to be disappointed by the ineffective font manager that comes with *Pro Page*. The font manager was designed to handle all type 1 fonts, but in fact it only seems to cope with type 1.0 typefaces. This is a pity, because all of the most exciting stuff seems to be type 1-1.0. According to the bulletin boards, Gold Disk are aware of the problems, but they say that it's not their fault as they can't be expected to create software to cope with unofficial typefaces (as they seem to think the latter type are). Personally, I don't think it matters whether they're official or not. If everybody's using and creating them, Gold Disk should support them! Gold Disk are usually very good on customer support, so hopefully an upgraded font manager should be on the cards for all registered users.

PROGRAM PROBLEMS

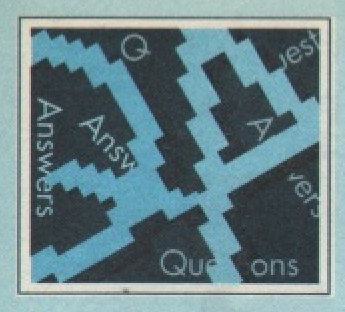
I recently borrowed a book from the library which contained a program I wanted to put onto the Amiga.



However, when I tried typing it into the Workbench CLI, I kept receiving the message 'Unknown command'. Could you please tell me how to enter the program so that I can save it to disk?

David Dean, Walsall, West Midlands

In the first place, it



depends which language the program was written in. There are dozens of different computer languages, and the Amiga doesn't understand even half of them!

When you type in the CLI or Shell windows you are using a DOS (disk operating system) language. Early Amigas were also supplied with a version of Basic. There are several distinct stages to entering a program on the computer: editing, error checking and, in some cases, compiling.

Basic, DOS and machine code use special editors to enter your commands, whereas C and Logo let you enter your programs via any text editor. After entering/editing a program, it will probably have to be debugged and perhaps compiled. For this, a compiler is usually required to convert your programs into a form that the computer can deal with. Each language has its own unique type of compiler, and depending on the language, these can costs hundreds of pounds.

Before you go any further, I suggest that you find out which language the program in your book was written in. Then find out whether or not it's one of the two that come with the Amiga. If not, is it worth your while buying a dedicated compiler?

OPTICAL ADDITION

I've got a 200Mb Panasonic 50200 optical disk drive and a 20Mb A590.



The problem is, I can't find any way of attaching the optical drive to my Amiga Plus. Is there a way to perform such a connection? If not, what sort of PC set up can it be easily linked up to?

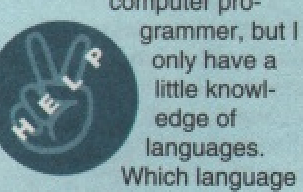
Jim Fitzsimons, Battersea, London

I'm no expert on connecting optical drives, but Nic Veitch suggests that you can probably attach it using a SCSI interface such as the ICD AD-SCSI, which is available from Silica Systems. Give them a ring on 081 3091111.

As for PC compatibility, the drive is likely to work with all IBM PC compatible machines.

I WANNA BE...

I would like to become a computer programmer, but I only have a little knowledge of languages.



Which language would you recommend I learn for both games and business programming, and what is the best type of course (schools, college, University, etc)?

Craig Shortman, Llwynypia, South Wales

The language you choose depends to a large extent on the system you plan to program on. If you plan to work on business mainframes, Cobol is one of the more common languages and you can take full or part time courses on it at colleges and Polytechnics all over the country.

If you plan to work on PCs, Amigas, or other micros, C and machine code are popular. C is especially useful because code written on one machine can be transferred to another with a minimum of modification. In fact the Amiga's operating system has been written in C. Again you can find courses all over the country.

Machine code, sometimes called assembler (or 68000 on the Amiga), is more powerful but tends to be specific to particular computers or processor families. Therefore if the machine you learn on becomes obsolete, you may find yourself having to learn a whole dialect of the language. It's very difficult to find courses in assembler, and I don't know of any.

The final alternative is to take a University course in computer programming. These tend to cover many languages, and include some theoretical work, as well as giving you a detailed knowledge about how the actual hardware works. These courses are generally between two and three years in duration, and you should be reasonably good at maths to attempt them.

REMEMBER Please remember when asking questions, that the more information you give me, the better the chance that I can help you. Questions such as 'I've got a printer that doesn't work. Why?' are unlikely to be answered. What printer is it? What have done to try and make it work? What Amiga do you have? Etc, etc. It can also help to include a phone number or address, so that if I need more information, I can contact you quickly.

For those of you who thoughtfully include a stamped addressed envelope, I'd just like to remind you that I don't do personal correspondance, I'm just too busy writing the column, sorry.

AMIGA PLUS INCOMPATIBILITY

I received an A500+ for Christmas and I understand that it doesn't run some of the older games and business software. In your magazine, I've seen a Kickstart ROM sharer and a Kickstart 1.3 chip advertised, and I'm thinking of buying one or both of these.

Do I need to buy both, and if not, which one do I need? Does it make my Amiga completely compatible?

Peter O'Connor, Anglesey, Gwynedd

You will need both a ROM sharer and a kickstart ROM chip. The ROM sharer has space in it for two (or sometimes three) Kickstart ROMS).

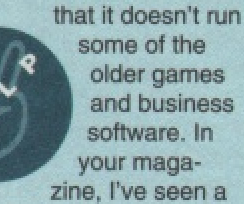
Both the 1.3 and 2.04 ROMS are plugged into the sharer, which is in turn plugged into the socket on the Amiga circuit board where the 2.04 ROM was previously situated.

A switch from the sharer mounts on the outer case of the Amiga, letting you flip between the two modes as required. In my experience, fitting a ROM sharer does makes the two machines compatible. The sharer and ROM cost roughly £60, but fitting the sharer will invalidate your computer's guarantee.

LC-10 QUESTIONS

I have a Star LC-10 colour printer and need some answers to a few questions:

1. What printer driver should I use to get the best result from my print-outs?
2. What software will allow me to print good quality fonts as small as possible?



3. Does hi-res or interlace affect the font size of print outs?

Ragman, No Fixed Abode.

The answers to your first question comes thanks to Ian Cook of Burnopfield, Newcastle upon Tyne, who was one of the readers kind enough to send in information regarding his printer drivers, etc. Thanks for those, Ian!

Ian says that you should use the EpsonX(CBM_MPS-1250) driver that comes with Workbench, and that your printer should be set to Epson LX-800 emulation mode. He says that the following DIP switch settings give perfect results for both graphics and text; Switches 1-1 to 1-8 should all be on (up). Switch 2-1 on, 2-2 off, 2-3 off and 2-4 on. The last three switches only apply if you are working in English, and should be modified for other languages.

As for printing small fonts, the LC-10 can print using Fine pitched characters (15 or 17 CPI) and this is generally the smallest readable text that you can use. Tell it to print at this size using the 'Print Pitch' option from the Workbench printer preferences. If you really need to print smaller, any program which bypasses the printer's fonts and transmits its own bit-maps would do. These include desk top publishing packages such as *Professional Page* and *Pagestream*, and even *DPaint* can be used, although it doesn't include any useful text formatting commands.

The screen mode that you use only affects the size of a print out when using an art package such as *DPaint*. In all other cases, the higher resolutions simply allow you to see more detail on the screen.

UNSOUND SCART

I've connected my Amiga to my video recorder via a Scart lead, but I only get sound. Is the problem my Amiga, the lead or my video? I now hear that you need a Genlock to mix graphics and video, but I can't afford one. My video is a Sony 715. I would be very grateful for any advice you could possibly offer me.

Also, can you tell me if there is a PD program capable of producing longish 3D animations for titling etc (I'm not bothered about ray-tracing).

Justin R Miers, Hallow, Worcester

I don't know how you've managed to get sound only using a Scart lead, as I would have expected that to be the only thing that you didn't get! I assume that's a misprint?

A Scart lead can of course carry both audio and visual information, but in most cases, the Amiga end of the lead doesn't have the additional phono plugs required to carry the sound. You can probably adapt the Scart lead yourself, although off-hand, I don't know which pin assignments you would need to use. However, the Sony 715 video recorder does have separate phono inputs at the front of the machine, so you could just run a lead directly from them to the left and right audio plugs at the back of your Amiga. If you don't fancy making your own Scart lead, you can probably buy one from Videk at Unit 10, Bowman Trading Estate, Westmorland Road, London, NW9 9RN. Tel: 081 204 6690.

I don't really have any suggestions on how to genlock without owning a genlock, but there is a DIY guide to making your own from scratch. It's on Mystix

Hardware Modification disk 2, available from Ground Zero PD (disk number #U140). Contact Ground Zero at 4 Chandos Road, Redland, Bristol, BS6 6PE.

The RSI Demo Maker lets you make some 3D animations but, ironically, the only PD programs that let you create full 3D sequences are ray tracers, of which there are many. Phone your local PD library to see what they can offer you.

MORE CHIP RAM

After using Sys Info, I noticed that I have an ECS one meg Agnus 8372A. My A500 was one of the last to be released before the Plus version came out. Does this mean that I can add on up to 1Mb of Chip RAM? If so, would the Datel Electronics' *Pro RAM* be a good source, and would this be compatible with the new A570 CD-ROM?



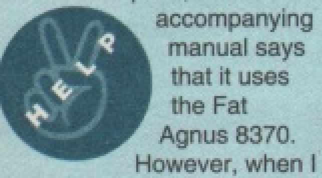
James Bellamy, Port Vale, Isle of Wight

You can add another half meg of Chip RAM, bringing your total up to one meg. However, this requires a tiny bit of soldering, and a small modification to the A500 motherboard, which you shouldn't attempt unless you're absolutely confident about it.

I'm not sure whether the Datel Pro RAM supports an advanced installation (as the Chip RAM adaptation is known), but if it does, it will certainly be compatible with Commodore's CD ROM drive when (or if!) it eventually materialises.

ECS PART TWO

I own an A500 Screen Gems pack, and its accompanying manual says that it uses the Fat Agnus 8370. However, when I checked using Sys Info, it said that my computer contained an 8372 ECS Agnus. Is the utility at fault, or have I got the wrong manual?

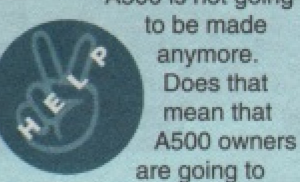


L. McSparron, Milford Haven, Dyfed

There's nothing wrong with Sys Info, I suspect that it was not worth Commodore's expense to reprint all of the manuals just because one chip got upgraded to a superior version.

ALAS POOR AMIGA

I recently heard that the A500 is not going to be made anymore. Does that mean that A500 owners are going to lose all third party hardware support, or is the A600 similar enough so that hardware will be compatible with both machines?



Steven Grant, Tipton, West Midlands

The fate of the A500 is a worry to many people, but I think that there are too many around for hardware developers to completely abondon it. Of course, many manufacturers will already have had projects under way when Commodore announced the demise of everyone's favourite machine, and I'm sure that they will see their efforts to fruition. I think that we're safe for at least another couple of years, perhaps longer.

Unfortunately, the A600 is almost completely incompatible in terms of hardware, but I doubt if it has a future as glorious as the A500, even though it's likely to be a much more reliable beast thanks to its surface mount technology.

RAVE MUSIC MAKERS

My friend and I are interested in making rave type dance music with our Amiga, but don't know anything about the different types of music packages that are available. We would be very grateful if you could give us some advice about the software which is suitable for this type of music.



Noah Beck & Roger Sylvester, Winscombe

The type of package you use is not as important as the choice of instruments that your song contains. Many packages can load standard IFF or Raw samples, and there are hundreds of these available from Public Domain libraries.

Having said that, a lot of rave style demos tend to use one of the *Soundtracker*-type programs, of which *MED* and *Protracker* are probably the best.

Another alternative is to use a MIDI sequencer hooked up to an instrument capable of generating the type of sounds that you want. The Roland Sound Canvas is a MIDI instrument that contains hundreds of instruments and a complete TR808 drum kit – the one preferred by many dance musicians because its bass drums are so deep. Analogue instruments are also coming back into fashion due to the rich tone that they generate, although the choice of sounds is perhaps not as diverse as instruments that use sample technology.

If you go for a MIDI sequencer, you can still use *MED*, but if you can actually play an instrument, you may wish to buy a package such as *Dr T's KCS* which lets you play your music into the computer in real-time.

DISK CAPACITY

I'm currently writing a novel, and have just the PD word processor *Text Engine 2.1* as I can't afford a commercial one. It tells me that I have to save my work to the program disk. I would like to know how much data the disk will hold? Will I have to keep making copies to store it all on?

Also, as I have no printer, are there any companies who will print out my work at a reasonable cost?

Nicholas Gosling, Sawston, Cambs

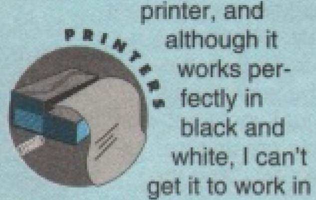
A freshly formatted disk can hold 880k of data, and you can find out the remaining space using the INFO command. If the disk to be checked is in the internal drive, simply type INFO DF0: <return>.

In your case, you don't actually need to save on the program disk. When the requester appears, simply type in the name of the disk you want to save to, followed by a colon (:), followed by the actual name that you want to give a file. For instance, if your blank disk is called 'Saves' and you want to call your file 'text1', you would type in 'Saves:text1' (don't include the speech marks.).

I don't know of any companies who offer a printing service, but perhaps one of our readers knows of such a company?

COLOUR PRINTING

I have a Star LC200 colour printer, and although it works perfectly in black and white, I can't get it to work in colour. What am I doing wrong?



David Marley, Rumney, Cardiff

An extremely quick reply to a quick question – that's what I like to see! Dig out your trusty copy of Workbench and in the Workbench printer preferences, there's an option called 'Shade', which should be set for colour printing. Hope that solves any problems you may be having.

DISK DRIVE PROBLEMS

Ever since I got my A500 last year, the modulator has failed to work properly, producing a black and white picture. I cured this by supporting the modulator with padding, but even that doesn't help now. To make matters worse, my Amiga has already been replaced once, and since then the disk drive keeps playing up. Sometimes after I put a disk into the drive, it clicks three times but nothing happens, yet when I take the disk out and put it back in, it works perfectly. Recently, the computer has started saying that all the disks have a read/write error, even though I know that this is not the case. The computer is still under warranty so should I return it to the shop again?

Paul Clark, Goxhill, South Humberside

Yes, you should return it to the shop immediately. The modulator or perhaps even the socket where you plug it in is obviously not working properly. The disk drive is also in trouble, and it sounds as if it's either become totally unaligned, or as if the controller chips (CIAs) are faulty. Quite often, the heads can become dirty causing similar problems, but dirty heads are rarely this disruptive. The drive can be knocked out of alignment if you're very rough or careless about how you insert disks, particularly if you put them in at an angle.

PRINTER UPDATE Since my request for information about the printers and drivers that you use, I've received a number of replies, but not nearly enough.

I now have information about the following printers: Star LC-10, Star LC20, Star XB24-10, Star LC200, Amstrad DMP3160, Amstrad DMP2160, Amstrad DMP2000, Centronics GLP3101, Dataproducts SPG8010, Citizen Swift 224, Juki 5520, Canon BJ-10ex and Tandy DMP106.

Remarkably, no two people have sent in information about the same printer, so if you sent information about one of the above, you have my heartfelt thanks, even if I don't have space to mention you all by name.

If you own a printer that's not listed above, and it works perfectly in both graphics and text modes, please take the time to drop me a line. I don't need a lot, just the driver you use, and the DIP switch settings (if any). If you want to add more information, then great.

ANY PROBLEMS?

If you have any questions of a technical nature send them to me, Mat Broomfield, at Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. That's the end of this month's thrilling episode, see you again next month.



Mat Broomfield continues his step-by-step guide to the world's greatest music package – OctaMed Pro – given to you free with last month's issue.



MAKING YOUR OWN INSTRUMENTS LIST

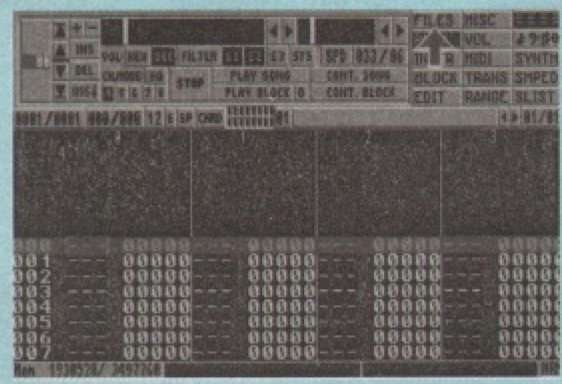
Last month, I showed you how to use the instruments which came with the demo tune on the disk. I also showed you how to enter notes, add new blocks, and even how to add a couple of effects to the notes. On this month's coverdisk you'll find a selection of instruments to get you started, so I'll be showing you how to access them more quickly via the SLIST menu. I'll also be going into detail about the many special effects which can be added to each note.

Although you could simply load each instrument up from the FILES screen, this can be rather inconvenient because you have to load up the directory of the disk containing the instruments. Following this, select the instrument you want, and click on 'LOAD INSTR'. The whole process can be reduced to two quick mouse clicks by using the SLIST options.

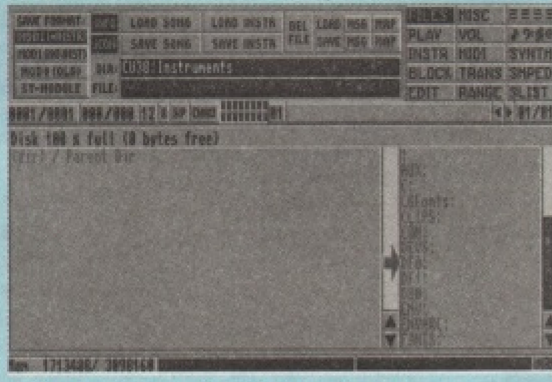
If you click on SLIST in the options palette, you will be taken to the Sample List screen. For now, just click on SynthOrgan1 in the bottom of the left-hand window. You should notice that its name appears in the Major Status Bar beside the number 01. This indicates the sample selected has been loaded into instrument position one. To test that the sample has loaded, press a few keys and you should hear some notes playing.

As you've just discovered, loading instruments via the Sample List Window is the easiest way of doing it.

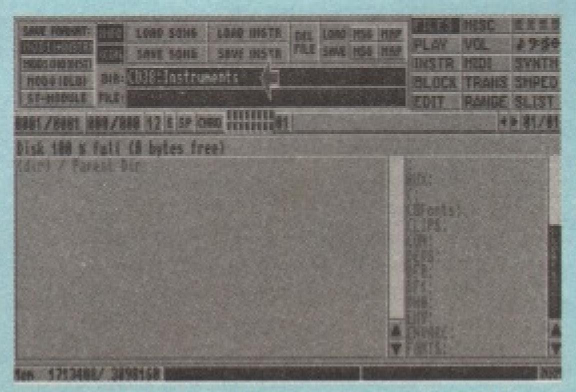
Having done this, let's add our own instruments to the Sample List:



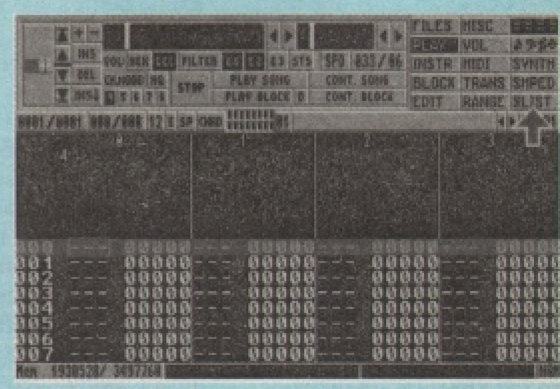
1. Click on FILES in the note palette.



2. Insert this month's disk into the internal drive and click DF0: in the devices list to the right of the FILES screen. The disk drive will start whirring away, and after a while you will be shown a list of all files on the disk. Directories containing additional files are prefixed by the letters (dir).

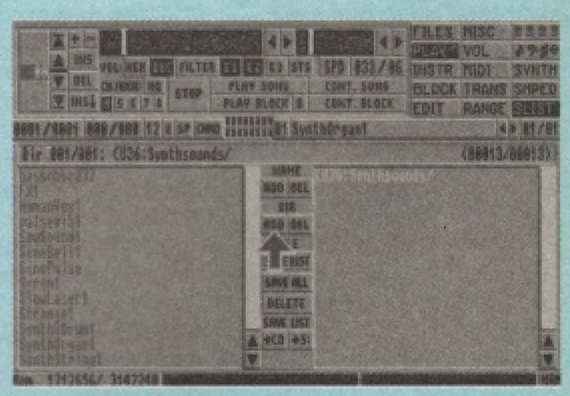


3. Click on the Instruments directory. In the upper half of the screen, the small black directory window (also labelled DIR), should contain the path name 'CU38:Instruments'.



4. Return to the Options Palette and click on the SLIST gadget again.

5. In the centre of the SLIST screen, between the two large windows, you should see a group of gadgets starting with the word 'Name'. The raised buttons can be clicked on, but the flat lettering is just there for identification purposes.



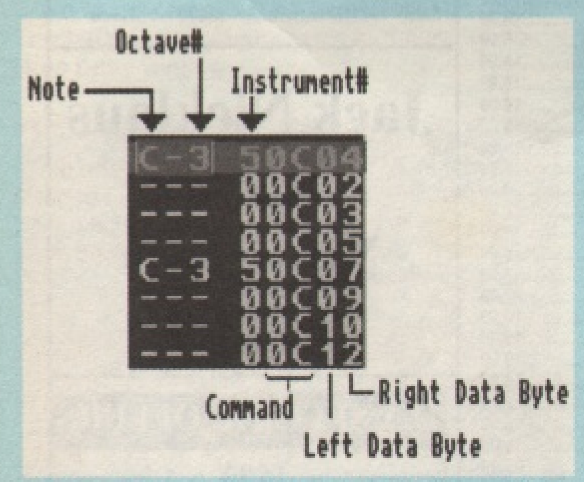
6. Find the letters DIR (again!), and click on the gadget labelled ADD underneath them. The path name 'CU38:Instruments/' should appear in white letters in the right-hand window. If you now click on this white writing, the contents of the Instruments directory will be shown in the left-hand window.

The Instruments directory has now been added to the samples list, but it's not permanent yet. If you turn off the power, you'll have to go through this procedure all over again.



To make it permanent, you must save the new directory listing. To do this, unprotect the disk you loaded *OctaMED* from, and click on the S button underneath the words SAVE LIST. This will save your new settings in the S directory of the disk. Whenever *OctaMED* loads from now on, it will also load the path name of your instruments – always make sure you have a copy of the master disk, though, in case of anything awry happening to the disk.

SPECIAL EFFECTS



OK, so now you know how to load instruments much faster. We can now progress to look at the effects that can be applied to each note. I'll start by refreshing your memory about the composition of a note. Each note consists of eight characters, and looks something like this: C-3 10C24. Each of the characters has a specific meaning and, by changing them, you can completely alter the way a note sounds.

The first three characters (C-3), indicate the note to be played. The next character (1), tells us which octave the note should be played in, and consequently, how high or low its pitch will be. The remaining four characters (0C24) are reserved for commands. These commands work in a variety of ways. Some of them affect only the specified note and will take effect immediately, others require a further command and will alter the entire song.

Each command is represented by a one or two digit hexadecimal number, and most require additional parameters in order to work. For example, the letter C (equivalent to the decimal number 12), tells *OctaMED* to set the volume of a note. Its parameters will be a number between 00 and 64.

Valid commands are within the range 00 to 1F (decimal 0 to 31).

Commands are always positioned in the third and fourth note positions from the right, and single digit commands are always placed in the third position. The first and second positions (known as the right and left data bytes respectively), are reserved for command parameters.

Before we go any further, you should load up the Strings2 instrument found on this month's cover disk. As we look at some commands, you should try out the examples so that you'll be familiar with their effect.

PLAYER COMMANDS

Here's a list of the various commands, complete with examples of use:

Command 0 – Arpeggio

This plays a rapid alternation between the selected note (the principle), and two others. The end result is a kind of warbling sound.

The second and third notes are both higher in pitch than the principle. The amount by which they are raised is specified in the left and right data bytes. For example:

C-2 10047 – Plays arpeggio
— 00047 – Continues the effect
— 00047

This plays the note of C, plays the second note four semi-tones higher, and the third note seven semi-tones higher than the last (notes E and G). A semi-tone is the smallest amount by which a note may be raised.

By repeating the command on successive lines without repeating the actual note (as shown above), the effect can be prolonged.

Command 1 – Slide Up

This raises the pitch of the current note by the number of semi-tones specified in the left and right data bytes. For example:

C-2 10000
— 00102 – Slide up by 2 semi-tones
— 00104 – slide up by 4 semi-tones
— 00106 – slide up by 6 semi-tones

Command 2 – Slide Down

This lowers the pitch of the current note by the number of semi-tones specified in the left and right data bytes. See the above command for an example of use.

Command 3 – Portamento

This is simply another way of creating slides. Instead of messing around with semi-tones, a target note is specified which denotes how far the slide should go. The command is given with the second note (which is NOT played), and its parameter indicates the speed of the slide. As is displayed here:

C-2 10000 – This is the the note to slide from.
— 00000
E-2 10305 – The slide starts here at a speed of 5.

Command 4 – Vibrato

This causes a pulsing effect. The left data byte denotes the speed of the pulse, the right shows its depth. For instance:

C-2 1049F – Begin Vibrato
— 1049F – Continues the effect
— 1049F
— 1049F

Command 6 – Old Style Vibrato

This was an inferior form of vibrato left in for compatibility with older versions of the program. It's not worth learning.

Command 8 – Hold and Decay

This specifies how a note will end – ie. how quickly it will fade away, and whether it does so abruptly or if its volume diminishes to nothing.

The left data byte specifies the decay (whether or not the volume fades), and the right data byte indicates the hold (sustain) of the note. As shown here:

C-2 1080F – Note retains its volume but has no sustain
— 00000
— 00000
C-2 108FF – Note loses volume and stops quickly

Command 9 – Secondary Tempo

This sets the secondary tempo. Although this can be very powerful, especially for MIDI users, you should try to avoid altering this unless you know what you're doing. To give you a bit of technical blurb, this feature alters the number of timing pulses per note (and consequently the number of events that can be triggered per time frame). In most cases where a change of speed is required, the primary tempo (command F), is more than adequate. Acceptible tempos are within the range 01-20 (01-32 decimal). For example:

C-2 10906 – The default tempo
C-2 10000
C-2 10903 – Twice as fast
C-2 10000

To hear the effect clearly, try this one out using a drum instead of the strings.

Command B – Position Jump

As you will recall from last month, a song is composed of blocks which can be played in any order. The order in which they play is primarily controlled by your entries in the Block Play List. This lets you jump to another part of the Block Play List, and is usually used at the end of a song which you want looped. If the song starts with an intro you don't want to be replayed in each subsequent loop, you can use this comand to jump to a point other than the beginning of the Block Play List. Ie:

C-2 10B03 – Jumps to position three in the Block Play List.

Command C – Set Volume

Although each instrument has a default volume, this command can be used to over-ride it. The volume is specified in the left and right data bytes using decimal numbers, and acceptible values are from 00-64:

C-2 10C32 – Half volume
C-2 10000 – Volume stays the same
C-2 10C64 – Full Volume
— 10C08 – Very quiet

Command D – Volume Slide

Smoothly increases or decreases the volume by the value specified in the left or right data bytes. The left data byte increases the volume, the right decreases it. For example:

C-2 10C40 – Volume set at 40
— 10D01 – Volume decreases a bit
— 10D01 – And a bit more
— 10D20 – And back up to its original level

We're going to leave the subject of commands at that for now. There are more, and we'll be looking at them in detailin a forthcoming issue.

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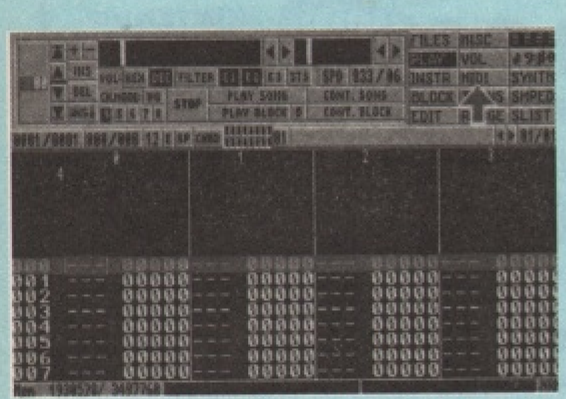
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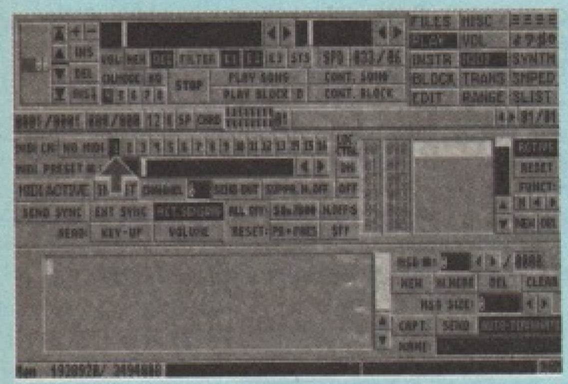
Right now, we're going to have a quick look at *OctaMED*'s MIDI capabilities because I'm sure that some of you are just dying to hook your keyboards up and start making sweet music.

Of course, the two essentials before you can begin, are a MIDI-compatible instrument, and a MIDI interface. Assuming you have these already plugged in, we can begin.

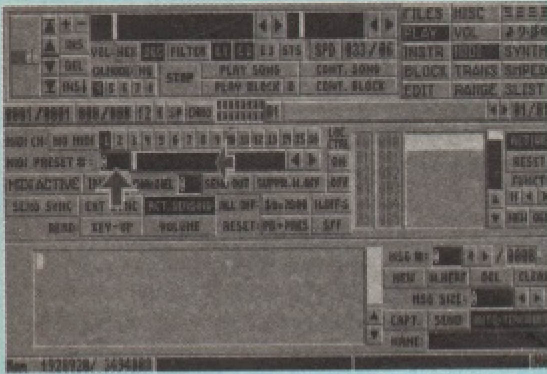
1. Turn your MIDI instrument on.
2. Load *OctaMED Pro*.



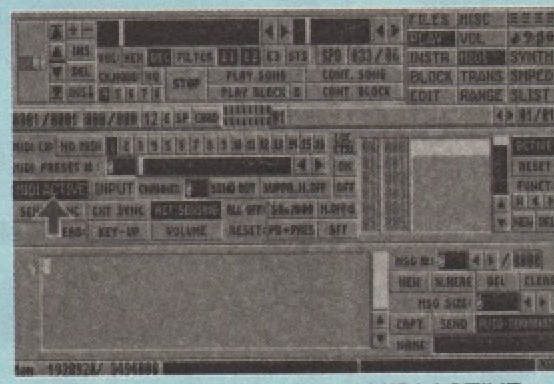
3. Go to the Options Palette and click on MIDI. The MIDI panel will appear over the top of the Note Entry window.



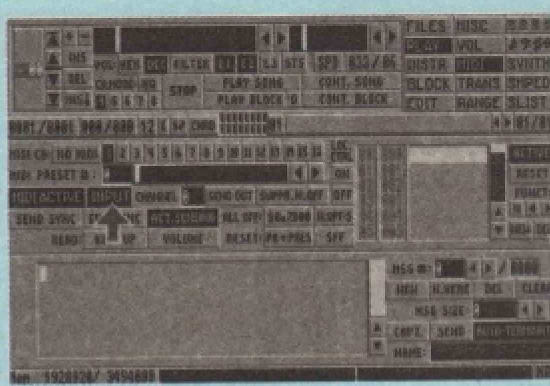
4. Providing you haven't altered the initial settings, the instrument number (shown in the Major Status Bar) should read 01. Look at the MIDI panel, and beside the letters MIDI CH: click on the number 1. This tells *OctaMED* to output all notes played using instrument one, through MIDI channel one.



5. If your instrument has externally selectable voices (usually with numbers between 0 and 128), you can set the instrument number using *OctaMED*. Below the MIDI channel number, the words MIDI PRESET #: appear, beside which is a small window and a slider. The window contains a number (0 at present), which indicates the current voice number of your instrument. Click on the slider, and holding down the left mouse button, you can drag it left or right. As you drag it, the number in the window will increase or decrease. Alternatively, you could simply click in the small window, and type in the number that you want. Set this so that the voice number you require is shown in the window.
6. If your MIDI instrument doesn't have externally selectable voices, set the voice that you require on your instrument, and leave the MIDI Preset number at 0. 0 tells *OctaMED* to use whatever voice is currently selected on your MIDI instrument.



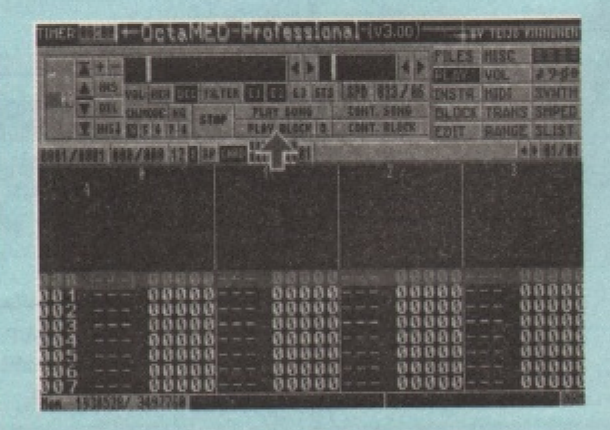
7. Click on the gadget labelled MIDI ACTIVE. This will tell *OctaMED* that you are using a MIDI device.



8. If your MIDI device is an instrument, as opposed to a sound module, click the INPUT gadget so that you can use your keyboard or whatever to control *OctaMED*.

9. Recall the Note Entry window by clicking the top right gadget in the Options Palette.

Okay, so now MIDI is activated, and every time you play anything using instrument one, the MIDI voice you selected will sound. To test this out, press a few keys on the computer and you should hear your MIDI instrument coming through. Be warned, though, because you are now entering a whole new world of musically-based fun...



Now click E in the Major Status Bar to start editing. Play a few notes on your MIDI instrument. You should see the notes appearing in the note editing window. Your MIDI instrument can be used in exactly the same way as the computer keyboard. However, if you are actually able to play your instrument, it offers you a much more powerful way of entering your music.

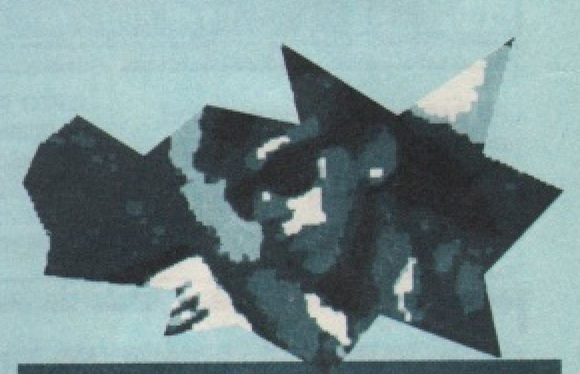
1. Return to the Major Status Bar and click CHRD to activate chord mode.

2. Click Play Block. *OctaMED* will begin playing the current block.

3. Play some notes on your MIDI instrument. You'll notice the notes appear in the Note Editing Window as you play them. Provided your keyboard is polyphonic (it can play more than one note at a time), *OctaMED* can recognise up to sixteen notes simultaneously.

As you see, this can be used to record your compositions in real-time as you play them.

Of course, once you've played some notes via your MIDI instrument, you can edit them through *OctaMED* in the usual way.



NEXT MONTH In the next part of this tutoral, we'll be continuing our wander through this superb package. We'll be looking at some more commands, including some to control features of your MIDI device, such as pitch bend, modulation and stereo panning. Space permitting, we'll also take a look at a few advanced editing techniques, and we might even have time to look at the sampler. If, however, you were daft enough to miss last month's CU AMIGA (and we won't hold it against you) you can grab yourself a copy of this excellent music package by giving our back issues department a call on 0858 410510. Go on, you know it makes sense...

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NEXT MONTH

MULTIMEDIA IS GO!

We show you how to transform your Amiga into the multi-media workstation of the future. We'll also be taking a look at some of the best authoring systems available to help you combine graphics and sound into your very own multi-media extravaganza. Will the multi-media revolution change the face of computing for ever? Find out next month...

GAMES FRENZY

Who said the Amiga doesn't have any good games anymore? Not us, that's for sure, as a whole batch of high-class games are set for release over the coming months. The party begins next issue, with first reviews of Crusaders Of The Dark Savant, Lotus 3 and the stunning-looking Shadow Of The Beast 3.

WHICH AMIGA IS BEST FOR YOU?

All of a sudden, there's a bewildering array of Amigas out there, but which one best suits your needs? If you're thinking of upgrading to a higher spec model or considering buying an Amiga for the first time, here's where to look.

HISTORY OF COMPUTING

Our potted history of computing takes a look at the golden years of 1984-87, including the ascendance of the C64 and the launch of the Amiga. We also enter the age of such classic games as Paradroid, Impossible Mission, and Miner 2049er.

STEP-BY-STEPS

Yet more in-depth tutorials covering our OctaMED Pro and Sculpt 4D Jnr giveaways as we show you how to get the most from your free programs. So, if you're struggling with these stunning giveaways, stay tuned for all you need to know...



TWO RED HOT DISKS

Next month, we present a playable demo of one of the most eagerly-awaited sequels of all time. What can it be? Find out in 30 days' time. Also on offer will be two more mind-blowing demos of top-rated games plus.... another complete full-price utility guaranteed to save you £££s.

Contents may be subject to change without notice.

CU AMIGA – SEPTEMBER ISSUE ON SALE 26TH AUGUST. BE THERE

If you are producing images like those shown here on your Amiga, you could be detained at Her Majesty's pleasure. Steve Keen investigates...

copyright or wrong?

VIVID IMAGE

Pick up any computer magazine and, somewhere inside its pages, you'll find an advert for PD disks containing video images, animations and samples of famous films or comics. You don't have to go any further than this very magazine to see demo reviews containing anything from Hellraiser's demons, to Marvel comic book superheroes. It's not surprising, though, that when you look at pictures such as these, it doesn't really register exactly what you are looking at – as, displayed in front of your very eyes, a suspected criminal offence is in progress.

Way back in January, a small and reputable PD company, run from a private address by a husband and wife team, was raided by Trading Standards Officers, FAST, and the Dorset police. Their haul consisted of thirty-five disks containing such material as Batman slideshows, Kate Bush samples, and Indiana Jones stills. More than eight months later, charges have still not been pressed against the couple and they await the outcome whilst the authorities wade through the legal quagmire of what exactly constitutes an infringement of copyright.

LEGAL STANDING?

So, with such unprecedented action, where exactly does the computer industry stand in the copyright circus? We spoke to industry figures, film and television companies, and lawyers alike to get their views. Ocean, arguably Britain's biggest software company and producers of countless licensed games, had this to say: 'When we obtain a film license for, say, Terminator 2 there is an incredible amount of negotiation. Some film companies are extremely flexible, but it all boils down to contracts. If, at the time of producing the movie, the actors haven't signed a contract giving specific permission for their faces to be used for computer games, they don't get used, it's as simple as that.

'Terminator 2 was treated in exactly the same way as Hook in that we weren't allowed to use any characters which looked like their screen counterparts. We were permitted to use digitised footage from the film, but only that devoid of recognisable characters. Throughout production we also have to send video tapes of the game to the film companies and licence holders so they can monitor how the title is progressing and ensure that it doesn't in any way tarnish the character's image. In the extreme, whilst working on The Simpsons, we sent off a video to the character's creator, Mat Groening, for a routine check and he didn't like the way Bart blinked. He said that it wasn't true to his character's onscreen persona. He then hand-drew the entire animation and sent it down to us with instructions that, unless the graphic artists drew it in exactly the same manner, the character could not be used. We can sympathise with this, after all he created the character and if the quality is not maintained it will only reflect badly on him. As far as PD is concerned it's the same. Just like pirating T-shirts, it completely devalues the officially-licensed product.'

SOUNDS FAMILIAR...

Audio sampling in the record industry has long been a legal stumbling block and, with the advent of the sophisticated and relatively cheap home computer, it's become even worse. EMI's legal advisor commented in this fashion: 'This is an area we haven't really come across before. I've personally been involved in many tape pirating cases, but this is a new area which isn't clearly defined by law. However, from what I've heard, the poor quality of the majority of this kind of pirating would never be licensed from our office. It can only serve to tarnish the credibility of the artists and their work.'

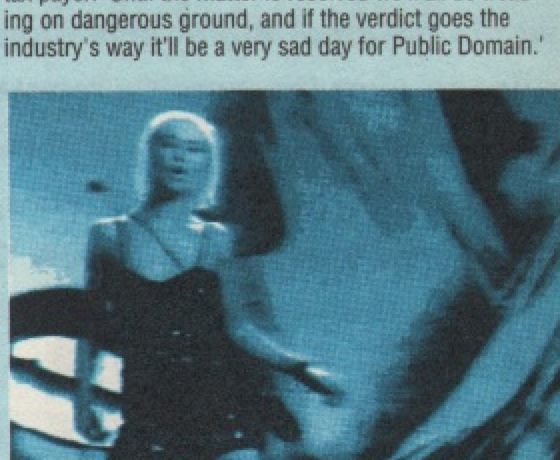
The BBC are even more unaware of this practice. A spokesman in their copyright department said 'I've never heard of this before and I'm afraid I don't know much about it. I do know that no one has ever been prosecuted for this type of infringement. Our point of view is that if an artist has performed in whatever way then they are entitled to a royalty. Whenever an image is used from the program, it has to be paid for. An agent would take a dim view of anyone letting his actor's talents or image being exploited without him getting his cut. On the other hand, it's a question of scale and financial involvement. The way I understand it is that no one is making huge amounts of money out of this type of thing and therefore it's not really viable to pursue it. However, actors, musicians, crew, etc, all have their own legal positions to protect. The media on which piracy occurs is irrelevant. Just because it's a disk it doesn't change anything.'

A spokesman for the British Phonographic Institute (the official body protecting recording artists' rights) said: 'If you reproduce someone else's sound without permission, that is a criminal act. You may talk about short samples, but some of these disks contain complete tracks. There is no grey area here. It's a crime and should be recognised as such. Before this was bought to our notice we just weren't aware that it existed at all, or how widespread it was. Now that it's out in the open we hope that with more public awareness, we can stop it completely. We are set up to combat the commercial profiteer, and although most people are genuinely ignorant of what the Copyright Designs and Patents Act states, we will be sending out letters shortly to all concerned enforcing the withdrawal of all pirated disks. If we get one conviction it'll only be a matter of time before the rest fall into line.'

THE LAST WORD...

The last word deserves to go to the man under the most pressure – the proprietor of the offending PD company. 'We are one of hundreds of libraries stocking exactly the same disks around the country. The music and film industries alike have ignored the situation for years and suddenly we've been singled out. We're not even famed for this kind of software. I don't believe for one second that any company is losing money due to a few hobbyists having some fun, and if the Trading Standard Officers are going to pursue such raiding throughout the country, the money taken from the Video and Record industry will be negligible compared to the costs to the tax payer.' Until the matter is resolved we'll all be treading on dangerous ground, and if the verdict goes the industry's way it'll be a very sad day for Public Domain.'









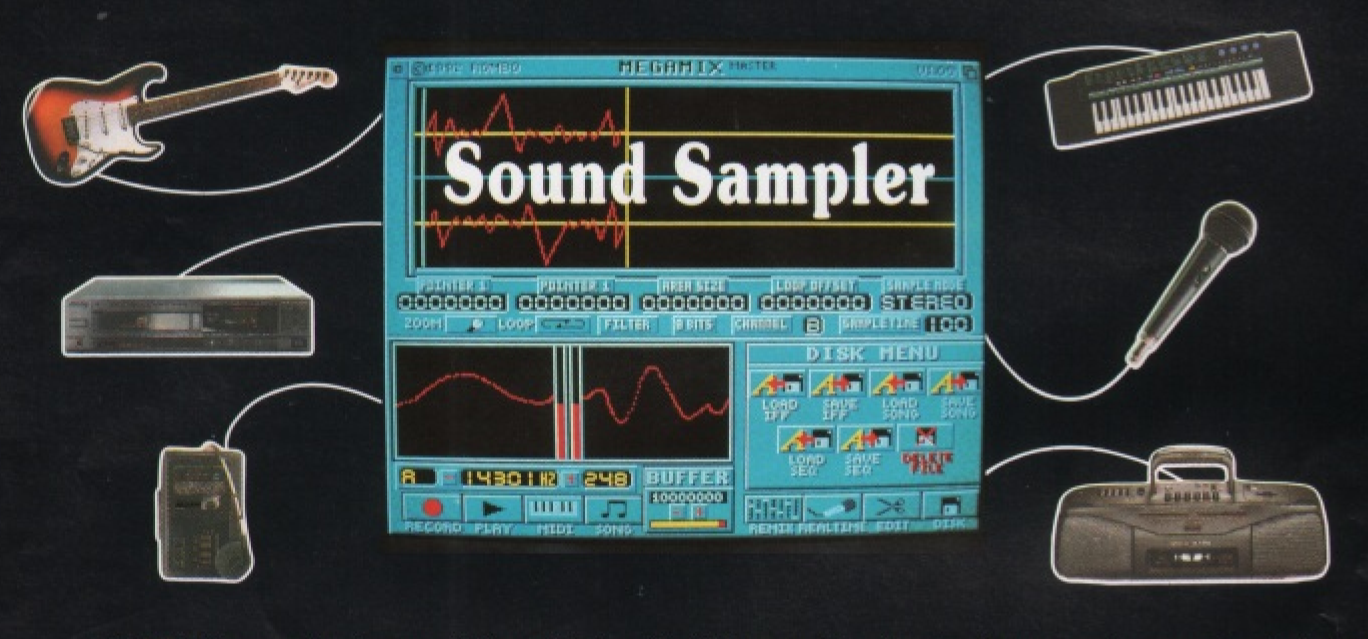


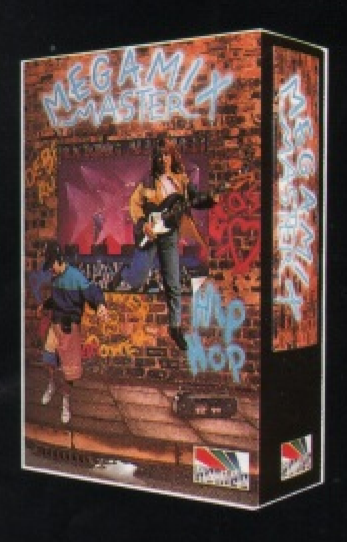
Images selected from just a handful of Public Domain disks. Do the likes of Wendy James and Bruce Lee's estate really deserve money for something they probably never knew about? Write in and let us know what you think...





Real Time Digital Effects





MEGAMIX master is a low cost, high specification digital effects cartridge that plugs into your printer port. It will allow you to sample or record stereo sound from almost any musical source. Special effects such as echo can be added in real time, perfect for the up and coming Karaoke singer who wants to get that live sound through his Hi-Fi. You will find that **MEGAMIX** masters performance and ease of use is unmatched by any rival. Just plug it in and go . . . .

CUT-Removes samples between pointers and stores it in the cut buffer.

COPY-Copies sample between pointers into the cut buffer.

INSERT-Inserts the contents of the cut buffer into the soundwave.

SPLICE-Removes the sample between pointers, stores it in the cut buffer then slides the rest of the soundwave together.

CHOP-Removes all of the soundwave except for the sample between pointers.

DELETE-Erases the sample between pointers.

MIX-Mixes the contents of the cut buffer with the soundwave.

FLIP-Reverses the sample between pointers.

PLAY CUT-Replays the contents of the cut buffer.



ECHO-Adds user definable echo between pointers.

IN-Makes Sample between pointers start quietly and build up to full volume.

OUT-Offers the opposite effect to IN.

PHASER-Adds phase shift to your sample.

LOUDER-Adds volume.

QUIETER-Decreases volume.

SEEK 0-Finds zero points nearest pointers, used in looping.

FILTER-Removes hiss or high frequency noise from your sample.

PACK-Removes every 2nd sample between pointers.

REMIX MENU: ECHO, IN, OUT, PHASER, LOUDER, QUIETER, SEEK 0, FILTER, PACK

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ECHO-Adds echo to and incoming sound in Real Time.

DIRECT-Plays incoming sound direct through Amiga.

SYNTH-Adds user definable distortion to sound in Real Time.

PHASER-Applies variable phase shift again in Real Time.

STEREO ECHO-Adds digital delay between L & R speakers.

VIBRATO-Rapidly varies frequency of sound.

REALTIME MENU: ECHO, DIRECT, SYNTH, PHASER, STEREO ECHO, VIBRATO

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LOAD IFF—Load a single IFF sound sample

SAVE IFF-Saves your sample between pointers as an IFF file.

LOAD SONG-Load a song sequence

SAVE SONG-Save a song sequence.

LOAD MIDI-Load a midi sequence.

SAVE MIDI-Save a midi sequence.



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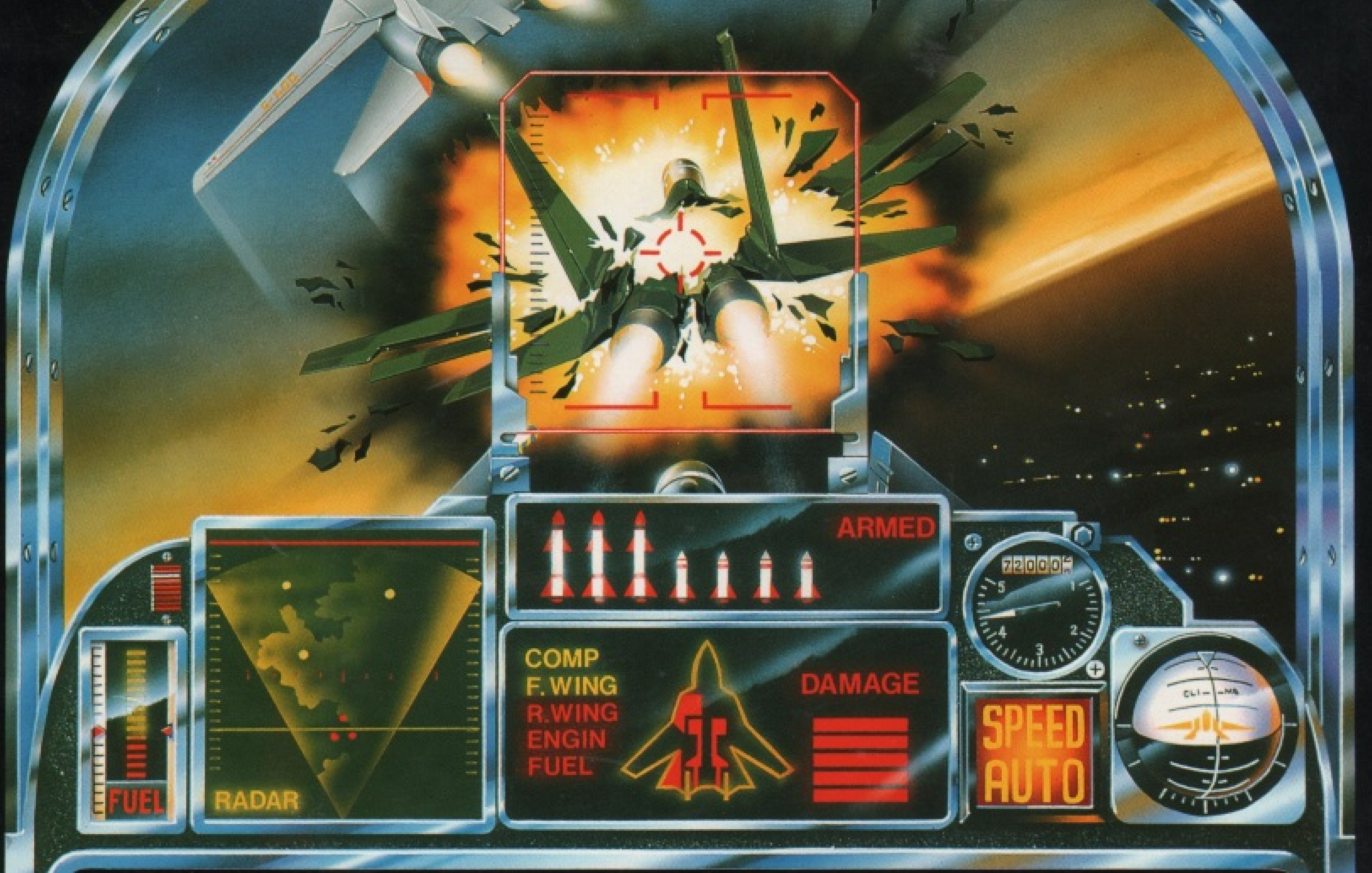




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